



3

SEQUENCE LISTING

<110> Mack, David H.
Gish, Kurt C.
Afar, Daniel
Eos Biotechnology, Inc.

<120> Methods of Diagnosis of Breast Cancer, Compositions and
Methods of Screening for Modulators of Breast Cancer

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<141> 2002-01-24

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<211> 502

<212> PRT

<213> Homo sapiens

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Asp Gly Glu Ser Thr Ala Pro Thr Pro Arg Pro Lys Val Leu Arg Cys
      20             25             30

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```

Lys Cys His His His Cys Pro Glu Asp Ser Val Asn Asn Ile Cys Ser
      35             40             45

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Thr Asp Gly Tyr Cys Phe Thr Met Ile Glu Glu Asp Asp Ser Gly Leu
      50             55             60

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Pro Val Val Thr Ser Gly Cys Leu Gly Leu Glu Gly Ser Asp Phe Gln
      65             70             75             80

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```

Cys Arg Asp Thr Pro Ile Pro His Gln Arg Arg Ser Ile Glu Cys Cys
      85             90             95

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Thr Glu Arg Asn Glu Cys Asn Lys Asp Leu His Pro Thr Leu Pro Pro
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Leu Lys Asn Arg Asp Phe Val Asp Gly Pro Ile His His Arg Ala Leu
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Leu Ile Ser Val Thr Val Cys Ser Leu Leu Leu Val Leu Ile Ile Leu
      130            135            140

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Phe Cys Tyr Phe Arg Tyr Lys Arg Gln Glu Thr Arg Pro Arg Tyr Ser
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Ile Gly Leu Glu Gln Asp Glu Thr Tyr Ile Pro Pro Gly Glu Ser Leu
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Arg	Asp	Leu	Ile	Glu	Gln	Ser	Gln	Ser	Ser	Gly	Ser	Gly	Ser	Gly	Leu	180	185	190	
Pro	Leu	Leu	Val	Gln	Arg	Thr	Ile	Ala	Lys	Gln	Ile	Gln	Met	Val	Lys	195	200	205	
Gln	Ile	Gly	Lys	Gly	Arg	Tyr	Gly	Glu	Val	Trp	Met	Gly	Lys	Trp	Arg	210	215	220	
Gly	Glu	Lys	Val	Ala	Val	Lys	Val	Phe	Phe	Thr	Thr	Glu	Glu	Ala	Ser	225	230	235	240
Trp	Phe	Arg	Glu	Thr	Glu	Ile	Tyr	Gln	Thr	Val	Leu	Met	Arg	His	Glu	245	250	255	
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Tyr	Ser	Phe	Gly	Leu	Ile	Leu	Trp	Glu	Val	Ala	Arg	Arg	Cys	Val	Ser	405	410	415	
Gly	Gly	Ile	Val	Glu	Glu	Tyr	Gln	Leu	Pro	Tyr	His	Asp	Leu	Val	Pro	420	425	430	
Ser	Asp	Pro	Ser	Tyr	Glu	Asp	Met	Arg	Glu	Ile	Val	Cys	Ile	Lys	Lys	435	440	445	
Leu	Arg	Pro	Ser	Phe	Pro	Asn	Arg	Trp	Ser	Ser	Asp	Glu	Cys	Leu	Arg	450	455	460	
Gln	Met	Gly	Lys	Leu	Met	Thr	Glu	Cys	Trp	Ala	His	Asn	Pro	Ala	Ser	465	470	475	480
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Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser
50 55 60
Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His
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Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly
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Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly
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Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp
130 135 140
Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala Phe Ser Lys Leu Asn
145 150 155 160
Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala Ile Glu Ser Leu Pro
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Pro Asn Ile Phe Arg Phe Val Pro Leu Thr His Leu Asp Leu Arg Gly
180 185 190
Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe Leu Glu His Ile Gly
195 200 205
Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys Trp Ala Cys Asn Cys
210 215 220
Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu Asn Met Pro Pro Gln Ser
225 230 235 240
Ile Ile Gly Asp Val Val Cys Asn Ser Pro Pro Phe Phe Lys Gly Ser
245 250 255
Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile Cys Pro Thr Pro Pro Val
260 265 270

Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	275	280	285
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	290	295	300
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	305	310	315
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	325	330	335
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 610 615 620
 Ala Ala Gly Ile Val Val Leu Val Leu His Arg Arg Arg Arg Tyr Lys
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 Lys Lys Gln Val Asp Glu Gln Met Arg Asp Asn Ser Pro Val His Leu
 645 650 655
 Gln Tyr Ser Met Tyr Gly His Lys Thr Thr His His Thr Thr Glu Arg
 660 665 670
 Pro Ser Ala Ser Leu Tyr Glu Gln His Met Val Ser Pro Met Val His
 675 680 685
 Val Tyr Arg Ser Pro Ser Phe Gly Pro Lys His Leu Glu Glu Glu Glu
 690 695 700
 Glu Arg Asn Glu Lys Glu Gly Ser Asp Ala Lys His Leu Gln Arg Ser
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 Leu Leu Glu Gln Glu Asn His Ser Pro Leu Thr Gly Ser Asn Met Lys
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 Glu Thr Leu Met Tyr Ser Arg Pro Arg Lys Val Leu Val Glu Gln Thr
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<210> 10
<211> 909
<212> PRT
<213> Homo sapiens

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Ala Leu Ala Gly Ala Leu Leu Ala Pro Cys Glu Ala Arg Gly Val Ser
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Leu Trp Asn Glu Gly Arg Ala Asp Glu Val Val Ser Ala Ser Val Arg
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Ser Gly Asp Leu Trp Ile Pro Val Lys Ser Phe Asp Ser Lys Asn His
  50              55              60

Pro Glu Val Leu Asn Ile Arg Leu Gln Arg Glu Ser Lys Glu Leu Ile
  65              70              75              80

Ile Asn Leu Glu Arg Asn Glu Gly Leu Ile Ala Ser Ser Phe Thr Glu
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Thr His Tyr Leu Gln Asp Gly Thr Asp Val Ser Leu Ala Arg Asn Tyr
 100              105              110

Thr Val Ile Leu Gly His Cys Tyr Tyr His Gly His Val Arg Gly Tyr
 115              120              125

Ser Asp Ser Ala Val Ser Leu Ser Thr Cys Ser Gly Leu Arg Gly Leu
 130              135              140

Ile Val Phe Glu Asn Glu Ser Tyr Val Leu Glu Pro Met Lys Ser Ala
 145              150              155              160

Thr Asn Arg Tyr Lys Leu Phe Pro Ala Lys Lys Leu Lys Ser Val Arg
 165              170              175

Gly Ser Cys Gly Ser His His Asn Thr Pro Asn Leu Ala Ala Lys Asn
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				245					250					255				
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Cys	Ser	Val	Ser	Gln	Asp	Pro	Phe	Thr	Ser	Leu	His	Glu	Phe	Leu	Asp			
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Trp	Arg	Lys	Met	Lys	Leu	Leu	Pro	Arg	Lys	Ser	His	Asp	Asn	Ala	Gln			
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His	Ser	Asp	Asn	Pro	Leu	Gly	Ala	Ala	Val	Thr	Leu	Ala	His	Glu	Leu			
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Glu	Glu	Gly	Glu	Glu	Cys	Asp	Cys	Gly	Glu	Pro	Glu	Glu	Cys	Met	Asn			
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Arg	Cys	Cys	Asn	Ala	Thr	Thr	Cys	Thr	Leu	Lys	Pro	Asp	Ala	Val	Cys			
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Gly	His	Leu	Gly	Lys	Gly	Leu	Met	Arg	Lys	Pro	Pro	Asp	Ser	Tyr	Pro	770	775	780
Pro	Lys	Asp	Asn	Pro	Arg	Arg	Leu	Leu	Gln	Cys	Gln	Asn	Val	Asp	Ile	785	790	795
Ser	Arg	Pro	Leu	Asn	Gly	Leu	Asn	Val	Pro	Gln	Pro	Gln	Ser	Thr	Gln	805	810	815
Arg	Val	Leu	Pro	Pro	Leu	His	Arg	Ala	Pro	Arg	Ala	Pro	Ser	Val	Pro	820	825	830

Ala Arg Pro Leu Pro Ala Lys Pro Ala Leu Arg Gln Ala Gln Gly Thr
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Cys Lys Pro Asn Pro Pro Gln Lys Pro Leu Pro Ala Asp Pro Leu Ala
850 855 860

Arg Thr Thr Arg Leu Thr His Ala Leu Ala Arg Thr Pro Gly Gln Trp
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Glu Thr Gly Leu Arg Leu Ala Pro Leu Arg Pro Ala Pro Gln Tyr Pro
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His Gln Val Pro Arg Ser Thr His Thr Ala Tyr Ile Lys
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<211> 2514
<212> DNA
<213> Homo sapiens

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<210> 12
<211> 394
<212> PRT
<213> Homo sapiens

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          35          40          45

Asp Cys Arg Pro Phe Leu Ala His Ser Ala Gly Tyr Ile Leu Gly Ser
          50          55          60

Val Asn Val Arg Cys Asn Thr Ile Val Arg Arg Arg Ala Lys Gly Ser
          65          70          75          80

Val Ser Leu Glu Gln Ile Leu Pro Ala Glu Glu Glu Val Arg Ala Arg
          85          90          95

Leu Arg Ser Gly Leu Tyr Ser Ala Val Ile Val Tyr Asp Glu Arg Ser
          100          105          110

Pro Arg Ala Glu Ser Leu Arg Glu Asp Ser Thr Val Ser Leu Val Val
          115          120          125

Gln Ala Leu Arg Arg Asn Ala Glu Arg Thr Asp Ile Cys Leu Leu Lys
          130          135          140

Gly Gly Tyr Glu Arg Phe Ser Ser Glu Tyr Pro Glu Phe Cys Ser Lys
          145          150          155          160

Thr Lys Ala Leu Ala Ala Ile Pro Pro Pro Val Pro Pro Ser Ala Thr
          165          170          175

Glu Pro Leu Asp Leu Gly Cys Ser Ser Cys Gly Thr Pro Leu His Asp
          180          185          190

Gln Gly Gly Pro Val Glu Ile Leu Pro Phe Leu Tyr Leu Gly Ser Ala
          195          200          205

Tyr His Ala Ala Arg Arg Asp Met Leu Asp Ala Leu Gly Ile Thr Ala
          210          215          220

Leu Leu Asn Val Ser Ser Asp Cys Pro Asn His Phe Glu Gly His Tyr
          225          230          235          240

Gln Tyr Lys Cys Ile Pro Val Glu Asp Asn His Lys Ala Asp Ile Ser
          245          250          255

Ser Trp Phe Met Glu Ala Ile Glu Tyr Ile Asp Ala Val Lys Asp Cys
          260          265          270

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Arg Gly Arg Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Ala
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 Glu Ala Phe Glu Phe Val Lys Gln Arg Arg Ser Ile Ile Ser Pro Asn
 305 310 315 320
 Phe Ser Phe Met Gly Gln Leu Leu Gln Phe Glu Ser Gln Val Leu Ala
 325 330 335
 Thr Ser Cys Ala Ala Glu Ala Ala Ser Pro Ser Gly Pro Leu Arg Glu
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 Arg Gly Lys Thr Pro Ala Thr Pro Thr Ser Gln Phe Val Phe Ser Phe
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 <211> 492
 <212> DNA
 <213> Homo sapiens

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 <212> PRT
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 35 40 45
 Ala Ala Thr Thr Ala Thr Thr Ala Ala Pro Thr Thr Ala Thr Thr Ala
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Ala Ser Thr Thr Ala Arg Lys Asp Ile Pro Val Leu Pro Lys Trp Val
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Gly Asp Leu Pro Asn Gly Arg Val Cys Pro
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<211> 1695
<212> DNA
<213> Homo sapiens

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<210> 16
<211> 439
<212> PRT
<213> Homo sapiens

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Ser Gln Asp Val Ala Ala Thr Pro Val Ala Arg Tyr Pro Pro Ile Val
35 40 45
Ala Ser Met Thr Ala Asp Ser Lys Ala Ala Arg Leu Arg Arg Ile Glu
50 55 60

Arg	Trp	Gln	Ala	Thr	Val	His	Ala	Ala	Glu	Ser	Val	Asp	Glu	Lys	Leu	65	70	75	80
Arg	Ile	Leu	Thr	Lys	Met	Gln	Phe	Met	Lys	Tyr	Met	Val	Tyr	Pro	Gln	85	90	95	
Thr	Phe	Ala	Leu	Asn	Ala	Asp	Arg	Trp	Tyr	Gln	Tyr	Phe	Thr	Lys	Thr	100	105	110	
Val	Phe	Leu	Ser	Gly	Leu	Pro	Pro	Pro	Pro	Ala	Glu	Pro	Glu	Pro	Glu	115	120	125	
Pro	Glu	Pro	Glu	Pro	Glu	Pro	Ala	Leu	Asp	Leu	Ala	Ala	Leu	Arg	Ala	130	135	140	
Val	Ala	Cys	Asp	Cys	Leu	Leu	Gln	Glu	His	Phe	Tyr	Leu	Arg	Arg	Arg	145	150	155	160
Arg	Arg	Val	His	Arg	Tyr	Glu	Glu	Ser	Glu	Val	Ile	Ser	Leu	Pro	Phe	165	170	175	
Leu	Asp	Gln	Leu	Val	Ser	Thr	Leu	Val	Gly	Leu	Leu	Ser	Pro	His	Asn	180	185	190	
Pro	Ala	Leu	Ala	Ala	Ala	Ala	Leu	Asp	Tyr	Arg	Cys	Pro	Val	His	Phe	195	200	205	
Tyr	Trp	Val	Arg	Gly	Glu	Glu	Ile	Ile	Pro	Arg	Gly	His	Arg	Arg	Gly	210	215	220	
Arg	Ile	Asp	Asp	Leu	Arg	Tyr	Gln	Ile	Asp	Asp	Lys	Pro	Asn	Asn	Gln	225	230	235	240
Ile	Arg	Ile	Ser	Lys	Gln	Leu	Ala	Glu	Phe	Val	Pro	Leu	Asp	Tyr	Ser	245	250	255	
Val	Pro	Ile	Glu	Ile	Pro	Thr	Ile	Lys	Cys	Lys	Pro	Asp	Lys	Leu	Pro	260	265	270	
Leu	Phe	Lys	Arg	Gln	Tyr	Glu	Asn	His	Ile	Phe	Val	Gly	Ser	Lys	Thr	275	280	285	
Ala	Asp	Pro	Cys	Cys	Tyr	Gly	His	Thr	Gln	Phe	His	Leu	Leu	Pro	Asp	290	295	300	
Lys	Leu	Arg	Arg	Glu	Arg	Leu	Leu	Arg	Gln	Asn	Cys	Ala	Asp	Gln	Ile	305	310	315	320
Glu	Val	Val	Phe	Arg	Ala	Asn	Ala	Ile	Ala	Ser	Leu	Phe	Ala	Trp	Thr	325	330	335	
Gly	Ala	Gln	Ala	Met	Tyr	Gln	Gly	Phe	Trp	Ser	Glu	Ala	Asp	Val	Thr	340	345	350	
Arg	Pro	Phe	Val	Ser	Gln	Ala	Val	Ile	Thr	Asp	Gly	Lys	Tyr	Phe	Ser	355	360	365	
Phe	Phe	Cys	Tyr	Gln	Leu	Asn	Thr	Leu	Ala	Leu	Thr	Thr	Gln	Ala	Asp	370	375	380	

Gln Asn Asn Pro Arg Lys Asn Ile Cys Trp Gly Thr Gln Ser Lys Pro
385 390 395 400

Leu Tyr Glu Thr Ile Glu Asp Asn Asp Val Lys Gly Phe Asn Asp Asp
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Val Leu Leu Gln Ile Val His Phe Leu Leu Asn Arg Pro Lys Glu Glu
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Lys Ser Gln Leu Leu Glu Asn
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<210> 17
<211> 4151
<212> DNA
<213> Homo sapiens

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<210> 18
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<212> PRT
<213> Homo sapiens

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Glu Gln Leu Asn His Tyr Arg Asn Val Ala Gln Asn Ala Arg Ser Glu
    35              40              45

Leu Ala Ala Thr Leu Val Lys Phe Glu Cys Ala Gln Ser Glu Leu Gln
    50              55              60

Asp Leu Arg Ser Lys Met Leu Ser Lys Glu Val Ser Cys Gln Glu Leu
    65              70              75              80

Lys Ala Glu Met Glu Ser Tyr Lys Glu Asn Asn Ala Arg Lys Ser Ser
      85              90              95

Leu Leu Thr Ser Leu Arg Asp Arg Val Gln Glu Leu Glu Glu Glu Ser
    100             105             110

Ala Ala Leu Ser Thr Ser Lys Ile Arg Thr Glu Ile Thr Ala His Ala
    115             120             125

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Val	Ser	Lys	Asn	Cys	Arg	Lys	His	Glu	Glu	Phe	Leu	Thr	Gln	Leu	Arg	
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Asp	Cys	Leu	Asp	Pro	Asp	Glu	Arg	Asn	Asp	Lys	Ala	Ser	Asp	Glu	Asp	
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Leu	Ile	Leu	Lys	Leu	Arg	Asp	Leu	Arg	Lys	Glu	Asn	Glu	Phe	Val	Lys	
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Gly	Gln	Ile	Val	Ile	Leu	Glu	Glu	Thr	Ile	Asn	Val	His	Glu	Met	Glu	
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Ala	Lys	Ala	Ser	Arg	Glu	Thr	Ile	Met	Arg	Leu	Ala	Ser	Glu	Val	Asn	
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Arg	Glu	Gln	Lys	Lys	Ala	Ala	Ser	Cys	Thr	Glu	Glu	Lys	Glu	Lys	Leu	
				245					250						255	
Asn	Gln	Asp	Leu	Leu	Ser	Ala	Val	Glu	Ala	Lys	Glu	Ala	Leu	Glu	Arg	
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Glu	Val	Lys	Ile	Phe	Gln	Glu	Arg	Leu	Leu	Ala	Gly	Gln	Gln	Val	Trp	
		275					280					285				
Asp	Ala	Ser	Lys	Gln	Glu	Val	Ser	Leu	Leu	Lys	Lys	Ser	Ser	Ser	Glu	
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Leu	Glu	Lys	Ser	Leu	Lys	Ala	Ser	Gln	Asp	Ala	Val	Thr	Thr	Ser	Gln	
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Ser	Gln	Tyr	Ser	Ser	Phe	Arg	Glu	Lys	Ile	Ala	Ala	Leu	Leu	Arg	Gly	
				325					330					335		
Arg	Leu	Ser	Met	Thr	Gly	Ser	Thr	Glu	Asp	Thr	Ile	Leu	Glu	Lys	Ile	
			340					345					350			
Arg	Glu	Met	Asp	Ser	Arg	Glu	Glu	Ser	Arg	Asp	Arg	Met	Val	Ser	Gln	
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Leu	Glu	Ala	Gln	Ile	Ser	Glu	Leu	Val	Glu	Gln	Leu	Gly	Lys	Glu	Ser	
	370					375					380					
Gly	Phe	His	Gln	Lys	Ala	Leu	Gln	Arg	Ala	Gln	Lys	Ala	Glu	Asn	Met	
385					390					395					400	
Leu	Glu	Thr	Leu	Gln	Gly	Gln	Leu	Thr	His	Leu	Glu	Ala	Glu	Leu	Val	
				405					410					415		
Ser	Gly	Gly	Val	Leu	Arg	Asp	Asn	Leu	Asn	Phe	Glu	Lys	Gln	Lys	Tyr	
			420					425					430			
Leu	Lys	Phe	Leu	Asp	Gln	Leu	Ser	Gln	Lys	Met	Lys	Leu	Asp	Gln	Met	
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Ala Ala Glu Leu Gly Phe Asp Thr Arg Leu Asp Val Val Leu Ala Arg
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 Thr Glu Gln Leu Val Arg Leu Glu Ser Asn Ala Val Ile Glu Asn Lys
 465 470 475 480
 Thr Ile Ala His Asn Leu Gln Arg Lys Leu Lys Thr Gln Lys Glu Arg
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 500 505 510
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 515 520 525
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 Thr Lys Ala Ile Glu Asp Leu Asn Lys Ser Arg Asp Gln Leu Glu Lys
 580 585 590
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 595 600 605
 Asp Thr Thr Glu His Glu Ala Lys Glu Asn Lys Glu Arg Ala Arg Asn
 610 615 620
 Met Ile Glu Val Val Thr Ser Glu Met Lys Thr Leu Lys Lys Ser Leu
 625 630 635 640
 Glu Glu Ala Glu Lys Arg Glu Lys Gln Leu Ala Asp Phe Arg Glu Val
 645 650 655
 Val Ser Gln Met Leu Gly Leu Asn Val Thr Ser Leu Ala Leu Pro Asp
 660 665 670
 Tyr Glu Ile Ile Lys Cys Leu Glu Arg Leu Val His Ser His Gln His
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<211> 1615

<212> DNA

<213> Homo sapiens

<400> 19

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<210> 20

<211> 290

<212> PRT

<213> Homo sapiens

<400> 20

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Asn Lys Leu Asp Leu Glu Thr Leu Thr Asp Ile Leu Gln His Gln Ile
          20                      25                      30

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Arg Ala Val Pro Phe Glu Asn Leu Asn Ile His Cys Gly Asp Ala Met
          35                      40                      45

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Asp Leu Gly Leu Glu Ala Ile Phe Asp Gln Val Val Arg Arg Asn Arg
  50                      55                      60

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Gly Gly Trp Cys Leu Gln Val Asn His Leu Leu Tyr Trp Ala Leu Thr
  65                      70                      75                      80

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Thr Ile Gly Phe Glu Thr Thr Met Leu Gly Gly Tyr Val Tyr Ser Thr
          85                      90                      95

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Pro Ala Lys Lys Tyr Ser Thr Gly Met Ile His Leu Leu Leu Gln Val
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Thr Ile Asp Gly Arg Asn Tyr Ile Val Asp Ala Gly Phe Gly Arg Ser
          115                      120                      125

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Tyr Gln Met Trp Gln Pro Leu Glu Leu Ile Ser Gly Lys Asp Gln Pro
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Gln Val Pro Cys Val Phe Arg Leu Thr Glu Glu Asn Gly Phe Trp Tyr
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<210> 22
 <211> 302
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Asn Thr Ala Glu Ile Gln His Cys Leu Val Asn Ala Gly Asp Val Gly
 50 55 60
 Cys Gly Val Phe Glu Cys Phe Glu Asn Asn Ser Cys Glu Ile Arg Gly
 65 70 75 80
 Leu His Gly Ile Cys Met Thr Phe Leu His Asn Ala Gly Lys Phe Asp
 85 90 95
 Ala Gln Gly Lys Ser Phe Ile Lys Asp Ala Leu Lys Cys Lys Ala His
 100 105 110
 Ala Leu Arg His Arg Phe Gly Cys Ile Ser Arg Lys Cys Pro Ala Ile
 115 120 125
 Arg Glu Met Val Ser Gln Leu Gln Arg Glu Cys Tyr Leu Lys His Asp
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 145 150 155 160
 His Phe Lys Asp Leu Leu Leu His Glu Pro Tyr Val Asp Leu Val Asn
 165 170 175
 Leu Leu Leu Thr Cys Gly Glu Glu Val Lys Glu Ala Ile Thr His Ser
 180 185 190
 Val Gln Val Gln Cys Glu Gln Asn Trp Gly Ser Leu Cys Ser Ile Leu
 195 200 205
 Ser Phe Cys Thr Ser Ala Ile Gln Lys Pro Pro Thr Ala Pro Pro Glu
 210 215 220
 Arg Gln Pro Gln Val Asp Arg Thr Lys Leu Ser Arg Ala His His Gly
 225 230 235 240
 Glu Ala Gly His His Leu Pro Glu Pro Ser Ser Arg Glu Thr Gly Arg
 245 250 255

Gly	Ala	Lys	Gly	Glu	Arg	Gly	Ser	Lys	Ser	His	Pro	Asn	Ala	His	Ala
			260					265					270		
Arg	Gly	Arg	Val	Gly	Gly	Leu	Gly	Ala	Gln	Gly	Pro	Ser	Gly	Ser	Ser
			275				280					285			
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<210> 23
 <211> 2560
 <212> DNA
 <213> Homo sapiens

<400> 23

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<210> 24
 <211> 465
 <212> PRT
 <213> Homo sapiens

<400> 24

Met	Phe	Leu	Ala	Thr	Leu	Tyr	Phe	Ala	Leu	Pro	Leu	Leu	Asp	Leu	Leu	1	5	10	15
Leu	Ser	Ala	Glu	Val	Ser	Gly	Gly	Asp	Arg	Leu	Asp	Cys	Val	Lys	Ala	20	25	30	
Ser	Asp	Gln	Cys	Leu	Lys	Glu	Gln	Ser	Cys	Ser	Thr	Lys	Tyr	Arg	Thr	35	40	45	
Leu	Arg	Gln	Cys	Val	Ala	Gly	Lys	Glu	Thr	Asn	Phe	Ser	Leu	Ala	Ser	50	55	60	
Gly	Leu	Glu	Ala	Lys	Asp	Glu	Cys	Arg	Ser	Ala	Met	Glu	Ala	Leu	Lys	65	70	75	80
Gln	Lys	Ser	Leu	Tyr	Asn	Cys	Arg	Cys	Lys	Arg	Gly	Met	Lys	Lys	Glu	85	90	95	
Lys	Asn	Cys	Leu	Arg	Ile	Tyr	Trp	Ser	Met	Tyr	Gln	Ser	Leu	Gln	Gly	100	105	110	
Asn	Asp	Leu	Leu	Glu	Asp	Ser	Pro	Tyr	Glu	Pro	Val	Asn	Ser	Arg	Leu	115	120	125	
Ser	Asp	Ile	Phe	Arg	Val	Val	Pro	Phe	Ile	Ser	Asp	Val	Phe	Gln	Gln	130	135	140	
Val	Glu	His	Ile	Pro	Lys	Gly	Asn	Asn	Cys	Leu	Asp	Ala	Ala	Lys	Ala	145	150	155	160
Cys	Asn	Leu	Asp	Asp	Ile	Cys	Lys	Lys	Tyr	Arg	Ser	Ala	Tyr	Ile	Thr	165	170	175	
Pro	Cys	Thr	Thr	Ser	Val	Ser	Asn	Asp	Val	Cys	Asn	Arg	Arg	Lys	Cys	180	185	190	
His	Lys	Ala	Leu	Arg	Gln	Phe	Phe	Asp	Lys	Val	Pro	Ala	Lys	His	Ser	195	200	205	
Tyr	Gly	Met	Leu	Phe	Cys	Ser	Cys	Arg	Asp	Ile	Ala	Cys	Thr	Glu	Arg	210	215	220	
Arg	Arg	Gln	Thr	Ile	Val	Pro	Val	Cys	Ser	Tyr	Glu	Glu	Arg	Glu	Lys	225	230	235	240
Pro	Asn	Cys	Leu	Asn	Leu	Gln	Asp	Ser	Cys	Lys	Thr	Asn	Tyr	Ile	Cys	245	250	255	
Arg	Ser	Arg	Leu	Ala	Asp	Phe	Phe	Thr	Asn	Cys	Gln	Pro	Glu	Ser	Arg	260	265	270	
Ser	Val	Ser	Ser	Cys	Leu	Lys	Glu	Asn	Tyr	Ala	Asp	Cys	Leu	Leu	Ala	275	280	285	

Tyr Ser Gly Leu Ile Gly Thr Val Met Thr Pro Asn Tyr Ile Asp Ser
 290 295 300
 Ser Ser Leu Ser Val Ala Pro Trp Cys Asp Cys Ser Asn Ser Gly Asn
 305 310 315 320
 Asp Leu Glu Glu Cys Leu Lys Phe Leu Asn Phe Phe Lys Asp Asn Thr
 325 330 335
 Cys Leu Lys Asn Ala Ile Gln Ala Phe Gly Asn Gly Ser Asp Val Thr
 340 345 350
 Val Trp Gln Pro Ala Phe Pro Val Gln Thr Thr Thr Ala Thr Thr Thr
 355 360 365
 Thr Ala Leu Arg Val Lys Asn Lys Pro Leu Gly Pro Ala Gly Ser Glu
 370 375 380
 Asn Glu Ile Pro Thr His Val Leu Pro Pro Cys Ala Asn Leu Gln Ala
 385 390 395 400
 Gln Lys Leu Lys Ser Asn Val Ser Gly Asn Thr His Leu Cys Ile Ser
 405 410 415
 Asn Gly Asn Tyr Glu Lys Glu Gly Leu Gly Ala Ser Ser His Ile Thr
 420 425 430
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Ser
 465

<210> 25
 <211> 1576
 <212> DNA
 <213> Homo sapiens

<400> 25
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ccgaatattc tcctaa 1576

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<210> 26
<211> 524
<212> PRT
<213> Homo sapiens

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<400> 26
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Asn Gly Gly Phe Gly Glu Leu Gly Cys Phe Gly Gly Ser Ala Lys Asp
      20             25             30

Arg Gly Leu Leu Glu Asp Glu Arg Ala Leu Gln Leu Ala Leu Asp Gln
      35             40             45

Leu Cys Leu Leu Gly Leu Gly Glu Pro Pro Ala Pro Arg Ala Gly Glu
      50             55             60

Asp Gly Gly Gly Gly Gly Gly Gly Ala Pro Ala Gln Pro Thr Ala Pro
      65             70             75             80

Pro Gln Pro Ala Pro Pro Pro Pro Pro Ala Ala Pro Pro Ala Ala Pro
      85             90             95

Thr Thr Ala Pro Ala Ala Gln Thr Pro Gln Pro Pro Thr Ala Pro Lys
      100            105            110

Gly Ala Ser Asp Ala Lys Leu Cys Ala Leu Tyr Lys Glu Ala Glu Leu
      115            120            125

Arg Leu Lys Gly Ser Ser Asn Thr Thr Glu Cys Val Pro Val Pro Thr
      130            135            140

Ser Glu His Val Ala Glu Ile Val Gly Arg Gln Gly Cys Lys Ile Lys
      145            150            155            160

Ala Leu Arg Ala Lys Thr Asn Thr Tyr Ile Lys Thr Pro Val Arg Gly
      165            170            175

Glu Glu Pro Val Phe Met Val Thr Gly Arg Arg Glu Asp Val Ala Thr
      180            185            190

Ala Arg Arg Glu Ile Ile Ser Ala Ala Glu His Phe Ser Met Ile Arg
      195            200            205

Ala Ser Arg Asn Lys Ser Gly Ala Ala Phe Gly Val Ala Pro Ala Leu
      210            215            220

Pro Gly Gln Val Thr Ile Arg Val Arg Val Pro Tyr Arg Val Val Gly
      225            230            235            240

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Leu Val Val Gly Pro Lys Gly Ala Thr Ile Lys Arg Ile Gln Gln Gln
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 Thr Asn Thr Tyr Ile Ile Thr Pro Ser Arg Asp Arg Asp Pro Val Phe
 260 265 270
 Glu Ile Thr Gly Ala Pro Gly Asn Val Glu Arg Ala Arg Glu Glu Ile
 275 280 285
 Glu Thr His Ile Ala Val Arg Thr Gly Lys Ile Leu Glu Tyr Asn Asn
 290 295 300
 Glu Asn Asp Phe Leu Ala Gly Ser Pro Asp Ala Ala Ile Asp Ser Arg
 305 310 315 320
 Tyr Ser Asp Ala Trp Arg Val His Gln Pro Gly Cys Lys Pro Leu Ser
 325 330 335
 Thr Phe Arg Gln Asn Ser Leu Gly Cys Ile Gly Glu Cys Gly Val Asp
 340 345 350
 Ser Gly Phe Glu Ala Pro Arg Leu Gly Glu Gln Gly Gly Asp Phe Gly
 355 360 365
 Tyr Gly Gly Tyr Leu Phe Pro Gly Tyr Gly Val Gly Lys Gln Asp Val
 370 375 380
 Tyr Tyr Gly Val Ala Glu Thr Ser Pro Pro Leu Trp Ala Gly Gln Glu
 385 390 395 400
 Asn Ala Thr Pro Thr Ser Val Leu Phe Ser Ser Ala Ser Ser Ser Ser
 405 410 415
 Ser Ser Ser Ala Lys Ala Arg Ala Gly Pro Pro Gly Ala His Arg Ser
 420 425 430
 Pro Ala Thr Ser Ala Gly Pro Glu Leu Ala Gly Leu Pro Arg Arg Pro
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 Pro Gly Glu Pro Leu Gln Gly Phe Ser Lys Leu Gly Gly Gly Gly Leu
 450 455 460
 Arg Ser Pro Gly Gly Gly Arg Asp Cys Met Val Cys Phe Glu Ser Glu
 465 470 475 480
 Val Thr Ala Ala Leu Val Pro Cys Gly His Asn Leu Phe Cys Met Glu
 485 490 495
 Cys Ala Val Arg Ile Cys Glu Arg Thr Asp Pro Glu Cys Pro Val Cys
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 His Ile Thr Ala Thr Gln Ala Ile Arg Ile Phe Ser
 515 520

<210> 27
 <211> 2070
 <212> DNA
 <213> Homo sapiens


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<400> 27
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<210> 28
<211> 689
<212> PRT
<213> Homo sapiens

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<400> 28
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Thr Pro Gly Ser Arg Arg Arg Arg Gln Arg Pro Ser Val Gly Val Gln
20             25            30

Ser Leu Arg Pro Gln Ser Pro Gln Leu Arg Gln Ser Asp Pro Gln Lys
35             40            45

Arg Asn Leu Asp Leu Glu Lys Ser Leu Gln Phe Leu Gln Gln Gln His
50             55            60

Ser Glu Met Leu Ala Lys Leu His Glu Glu Ile Glu His Leu Lys Arg
65             70            75            80

Glu Asn Lys Gly Glu Pro Ala Arg Gly Pro Arg Pro Ala Leu Pro Pro
85             90            95

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Gln	Ala	His	Ser	Thr	Leu	Pro	Leu	Pro	Gln	His	Arg	Asn	Thr	Ala	Ile			
			100					105					110					
Asn	Ser	Ser	Thr	Arg	Leu	Gly	Ser	Gly	Gly	Thr	Gln	Asp	Gly	Glu	Pro			
		115					120					125						
Leu	Gln	Thr	Val	Leu	Ala	His	Leu	Ala	Ala	Leu	Ala	Pro	Val	Cys	Gln			
	130					135					140							
Pro	Ser	Gly	Tyr	Arg	Phe	Trp	Gly	Thr	Trp	Thr	Asp	Ala	Ala	Thr	Ser			
145					150					155					160			
Ser	Arg	Gly	Trp	Thr	Met	Leu	Cys	Ser	Gln	Ala	Gln	His	Val	Leu	Leu			
				165					170					175				
Ser	Gly	Ser	Pro	Gly	Pro	Glu	Val	Ile	Ala	Gly	Arg	Gln	Val	Ala	Thr			
			180					185					190					
Gly	Cys	Ser	Pro	Asp	Leu	Pro	Pro	Pro	Ser	Arg	Ala	Glu	Met	Gly	Arg			
		195					200					205						
Asn	Pro	Trp	Asp	Ser	Pro	Cys	Pro	Ala	Arg	Ser	Leu	Pro	Gln	Ile	Ala			
	210					215					220							
Ala	Val	Ala	Arg	Pro	Arg	Ile	Ser	Ser	Pro	Met	Ala	Leu	Ser	Pro	His			
225					230					235					240			
Met	Leu	Gly	Ala	Gln	Gly	Ile	Trp	Thr	His	Ser	Ile	Gln	Gly	Ser	Leu			
			245						250					255				
Pro	Ala	Ile	Trp	Ala	Ala	Thr	Met	Gly	Thr	Lys	Gly	Gly	Ser	Arg	Val			
		260						265					270					
Leu	Phe	Pro	Cys	His	Leu	Ser	Lys	Ala	Leu	Pro	His	Pro	Asp	Ser	Gly			
	275						280					285						
Pro	His	Pro	Ala	Gln	Asp	Pro	Gly	Leu	Trp	Ser	Gln	Ala	His	Phe	Pro			
	290					295					300							
Leu	Ser	Leu	Gly	Leu	Gly	Leu	Thr	Ser	Gly	Gly	His	Leu	Thr	Gly	Gly			
305					310					315					320			
Trp	Ser	Gln	Pro	Gly	Asn	Ile	Ala	Ala	Gly	Ala	Val	Pro	Arg	Ala	Leu			
			325						330					335				
Pro	Ser	Gln	Gly	Asp	Met	Glu	Lys	Gly	Val	Glu	Gly	Gly	Pro	Phe	Pro			
		340						345					350					
Ser	Arg	Cys	Gly	Asn	Ser	Ser	Glu	Leu	Phe	Trp	Ala	Lys	Cys	Gly	Pro			
		355					360					365						
Ser	Arg	Gln	Pro	Gln	Pro	Cys	Ser	Ala	Gly	Asp	Ala	Asp	Arg	Thr	Arg			
	370					375					380							
Glu	Glu	Ala	Met	Leu	Ser	Leu	Gly	Thr	Cys	Cys	Ser	Met	Cys	Pro	Lys			
385					390					395					400			
Pro	Ser	Cys	Phe	Pro	Asp	Gly	Pro	Ser	Gly	Asn	His	Leu	Ser	Arg	Ala			
			405						410					415				

Ser Ala Pro Leu Gly Ala Arg Trp Val Cys Ile Asn Gly Val Trp Val
 420 425 430
 Glu Pro Gly Gly Pro Ser Pro Ala Arg Leu Lys Glu Gly Ser Ser Arg
 435 440 445
 Thr His Arg Pro Gly Gly Lys Arg Gly Arg Leu Ala Gly Gly Ser Ala
 450 455 460
 Asp Thr Val Arg Ser Pro Ala Asp Ser Leu Ser Met Ser Ser Phe Gln
 465 470 475 480
 Ser Val Lys Ser Ile Ser Asn Ser Ala Asn Ser Gln Gly Lys Ala Arg
 485 490 495
 Pro Gln Pro Gly Ser Phe Asn Lys Gln Asp Ser Lys Ala Asp Val Ser
 500 505 510
 Gln Lys Ala Asp Leu Glu Glu Glu Pro Leu Leu His Asn Ser Lys Leu
 515 520 525
 Asp Lys Val Pro Gly Val Gln Gly Gln Ala Arg Lys Glu Lys Ala Glu
 530 535 540
 Ala Ser Asn Ala Gly Ala Ala Cys Met Gly Asn Ser Gln His Gln Gly
 545 550 555 560
 Arg Gln Met Gly Ala Gly Ala His Pro Pro Met Ile Leu Pro Leu Pro
 565 570 575
 Leu Arg Lys Pro Thr Thr Leu Arg Gln Cys Glu Val Leu Ile Arg Glu
 580 585 590
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 595 600 605
 Ser Leu Leu Glu Gly Ser Gln Arg Pro Gln Ala Ala Pro Glu Glu Ala
 610 615 620
 Ser Phe Pro Arg Asp Gln Glu Ala Thr His Phe Pro Lys Val Ser Thr
 625 630 635 640
 Lys Ser Leu Ser Lys Lys Cys Leu Ser Pro Pro Val Ala Glu Arg Ala
 645 650 655
 Ile Leu Pro Ala Leu Lys Gln Thr Pro Lys Asn Asn Phe Ala Glu Arg
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Leu

<210> 29
 <211> 3461
 <212> DNA
 <213> Homo sapiens

<400> 29

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gtgctgcttt	tactgaaggc	ttatcaagtg	gtttaagtac	ttctgttgct	gtgttctgtc	2040
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gagcaattgt	ctttatatac	ggtactgtag	ccatactagg	cctgtctgtg	gcattctcta	3420
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 <212> PRT
 <213> Homo sapiens

<400> 30
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 Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly Ile Asn Val Asp Leu
 35 40 45
 Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
 50 55 60
 Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
 65 70 75 80
 Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
 85 90 95
 Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
 100 105 110
 Asp His Glu His His Ser Asp His Glu His His Ser Asp His Asp His
 115 120 125
 His Ser His His Asn His Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala
 130 135 140
 Leu Cys Pro Asp His Asp Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn
 145 150 155 160
 Ser Gln Gly Lys Gly Ala His Arg Pro Glu His Ala Ser Gly Arg Arg
 165 170 175
 Asn Val Lys Asp Ser Val Ser Ala Ser Glu Val Thr Ser Thr Val Tyr
 180 185 190
 Asn Thr Val Ser Glu Gly Thr His Phe Leu Glu Thr Ile Glu Thr Pro
 195 200 205
 Arg Pro Gly Lys Leu Phe Pro Lys Asp Val Ser Ser Ser Thr Pro Pro
 210 215 220
 Ser Val Thr Ser Lys Ser Arg Val Ser Arg Leu Ala Gly Arg Lys Thr
 225 230 235 240
 Asn Glu Ser Val Ser Glu Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn
 245 250 255
 Thr Asn Glu Asn Pro Gln Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr
 260 265 270
 Ser His Gly Met Gly Ile Gln Val Pro Leu Asn Ala Thr Glu Phe Asn
 275 280 285

Tyr	Leu	Cys	Pro	Ala	Ile	Ile	Asn	Gln	Ile	Asp	Ala	Arg	Ser	Cys	Leu	290	295	300
Ile	His	Thr	Ser	Glu	Lys	Lys	Ala	Glu	Ile	Pro	Pro	Lys	Thr	Tyr	Ser	305	310	315
Leu	Gln	Ile	Ala	Trp	Val	Gly	Gly	Phe	Ile	Ala	Ile	Ser	Ile	Ile	Ser	325	330	335
Phe	Leu	Ser	Leu	Leu	Gly	Val	Ile	Leu	Val	Pro	Leu	Met	Asn	Arg	Val	340	345	350
Phe	Phe	Lys	Phe	Leu	Leu	Ser	Phe	Leu	Val	Ala	Leu	Ala	Val	Gly	Thr	355	360	365
Leu	Ser	Gly	Asp	Ala	Phe	Leu	His	Leu	Leu	Pro	His	Ser	His	Ala	Ser	370	375	380
His	His	His	Ser	His	Ser	His	Glu	Glu	Pro	Ala	Met	Glu	Met	Lys	Arg	385	390	395
Gly	Pro	Leu	Phe	Ser	His	Leu	Ser	Ser	Gln	Asn	Ile	Glu	Glu	Ser	Ala	405	410	415
Tyr	Phe	Asp	Ser	Thr	Trp	Lys	Gly	Leu	Thr	Ala	Leu	Gly	Gly	Leu	Tyr	420	425	430
Phe	Met	Phe	Leu	Val	Glu	His	Val	Leu	Thr	Leu	Ile	Lys	Gln	Phe	Lys	435	440	445
Asp	Lys	Lys	Lys	Lys	Asn	Gln	Lys	Lys	Pro	Glu	Asn	Asp	Asp	Asp	Val	450	455	460
Glu	Ile	Lys	Lys	Gln	Leu	Ser	Lys	Tyr	Glu	Ser	Gln	Leu	Ser	Thr	Asn	465	470	475
Glu	Glu	Lys	Val	Asp	Thr	Asp	Asp	Arg	Thr	Glu	Gly	Tyr	Leu	Arg	Ala	485	490	495
Asp	Ser	Gln	Glu	Pro	Ser	His	Phe	Asp	Ser	Gln	Gln	Pro	Ala	Val	Leu	500	505	510
Glu	Glu	Glu	Glu	Val	Met	Ile	Ala	His	Ala	His	Pro	Gln	Glu	Val	Tyr	515	520	525
Asn	Glu	Tyr	Val	Pro	Arg	Gly	Cys	Lys	Asn	Lys	Cys	His	Ser	His	Phe	530	535	540
His	Asp	Thr	Leu	Gly	Gln	Ser	Asp	Asp	Leu	Ile	His	His	His	His	Asp	545	550	555
Tyr	His	His	Ile	Leu	His	His	His	His	His	Gln	Asn	His	His	Pro	His	565	570	575
Ser	His	Ser	Gln	Arg	Tyr	Ser	Arg	Glu	Glu	Leu	Lys	Asp	Ala	Gly	Val	580	585	590
Ala	Thr	Leu	Ala	Trp	Met	Val	Ile	Met	Gly	Asp	Gly	Leu	His	Asn	Phe	595	600	605

Ser Asp Gly Leu Ala Ile Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser
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 Gly Leu Ser Thr Ser Val Ala Val Phe Cys His Glu Leu Pro His Glu
 625 630 635 640
 Leu Gly Asp Phe Ala Val Leu Leu Lys Ala Gly Met Thr Val Lys Gln
 645 650 655
 Ala Val Leu Tyr Asn Ala Leu Ser Ala Met Leu Ala Tyr Leu Gly Met
 660 665 670
 Ala Thr Gly Ile Phe Ile Gly His Tyr Ala Glu Asn Val Ser Met Trp
 675 680 685
 Ile Phe Ala Leu Thr Ala Gly Leu Phe Met Tyr Val Ala Leu Val Asp
 690 695 700
 Met Val Pro Glu Met Leu His Asn Asp Ala Ser Asp His Gly Cys Ser
 705 710 715 720
 Arg Trp Gly Tyr Phe Phe Leu Gln Asn Ala Gly Met Leu Leu Gly Phe
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 Ile Asn Phe
 755

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 <212> DNA
 <213> Homo sapiens

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 agacgcggag ggtcgaggcg gcgcggcctg agtgaaaccc aatggaaaaa gcatgacatt 180
 tagaagtaga agacttagct tcaaatccct actccttcac ttactaattt tgtgatttgg 240
 aaatatccgc gcaagatgtt gacgttgcag acttgggtag tgcaagcctt gtttattttc 300
 ctcaccactg aatctacagg tgaacttcta gatccatgtg gttatatcag tcctgaatct 360
 ccagttgtac aacttcattc taatttcact gcagtttgtg tgctaaagga aaaatgtatg 420
 gattattttc atgtaaattg taattacatt gtctggaaaa caaaccattt tactattcct 480
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caagtttcat	cagtcaatga	ggaagatttt	gttagactta	aacagcagat	ttcagatcat	2820
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<211> 918

<212> PRT

<213> Homo sapiens

<400> 32

Met	Leu	Thr	Leu	Gln	Thr	Trp	Val	Val	Gln	Ala	Leu	Phe	Ile	Phe	Leu
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Thr	Thr	Glu	Ser	Thr	Gly	Glu	Leu	Leu	Asp	Pro	Cys	Gly	Tyr	Ile	Ser
			20					25					30		
Pro	Glu	Ser	Pro	Val	Val	Gln	Leu	His	Ser	Asn	Phe	Thr	Ala	Val	Cys
		35					40					45			
Val	Leu	Lys	Glu	Lys	Cys	Met	Asp	Tyr	Phe	His	Val	Asn	Ala	Asn	Tyr
	50					55					60				
Ile	Val	Trp	Lys	Thr	Asn	His	Phe	Thr	Ile	Pro	Lys	Glu	Gln	Tyr	Thr
65					70					75				80	
Ile	Ile	Asn	Arg	Thr	Ala	Ser	Ser	Val	Thr	Phe	Thr	Asp	Ile	Ala	Ser
				85					90					95	
Leu	Asn	Ile	Gln	Leu	Thr	Cys	Asn	Ile	Leu	Thr	Phe	Gly	Gln	Leu	Glu
		100						105					110		
Gln	Asn	Val	Tyr	Gly	Ile	Thr	Ile	Ile	Ser	Gly	Leu	Pro	Pro	Glu	Lys
		115					120					125			

Pro	Lys	Asn	Leu	Ser	Cys	Ile	Val	Asn	Glu	Gly	Lys	Lys	Met	Arg	Cys		
	130					135					140						
Glu	Trp	Asp	Gly	Gly	Arg	Glu	Thr	His	Leu	Glu	Thr	Asn	Phe	Thr	Leu		
145					150					155					160		
Lys	Ser	Glu	Trp	Ala	Thr	His	Lys	Phe	Ala	Asp	Cys	Lys	Ala	Lys	Arg		
				165					170						175		
Asp	Thr	Pro	Thr	Ser	Cys	Thr	Val	Asp	Tyr	Ser	Thr	Val	Tyr	Phe	Val		
			180					185						190			
Asn	Ile	Glu	Val	Trp	Val	Glu	Ala	Glu	Asn	Ala	Leu	Gly	Lys	Val	Thr		
		195					200					205					
Ser	Asp	His	Ile	Asn	Phe	Asp	Pro	Val	Tyr	Lys	Val	Lys	Pro	Asn	Pro		
	210					215					220						
Pro	His	Asn	Leu	Ser	Val	Ile	Asn	Ser	Glu	Glu	Leu	Ser	Ser	Ile	Leu		
225					230					235					240		
Lys	Leu	Thr	Trp	Thr	Asn	Pro	Ser	Ile	Lys	Ser	Val	Ile	Ile	Leu	Lys		
				245					250					255			
Tyr	Asn	Ile	Gln	Tyr	Arg	Thr	Lys	Asp	Ala	Ser	Thr	Trp	Ser	Gln	Ile		
		260						265					270				
Pro	Pro	Glu	Asp	Thr	Ala	Ser	Thr	Arg	Ser	Ser	Phe	Thr	Val	Gln	Asp		
		275					280					285					
Leu	Lys	Pro	Phe	Thr	Glu	Tyr	Val	Phe	Arg	Ile	Arg	Cys	Met	Lys	Glu		
	290					295				300							
Asp	Gly	Lys	Gly	Tyr	Trp	Ser	Asp	Trp	Ser	Glu	Glu	Ala	Ser	Gly	Ile		
305					310					315					320		
Thr	Tyr	Glu	Asp	Arg	Pro	Ser	Lys	Ala	Pro	Ser	Phe	Trp	Tyr	Lys	Ile		
				325					330					335			
Asp	Pro	Ser	His	Thr	Gln	Gly	Tyr	Arg	Thr	Val	Gln	Leu	Val	Trp	Lys		
			340					345					350				
Thr	Leu	Pro	Pro	Phe	Glu	Ala	Asn	Gly	Lys	Ile	Leu	Asp	Tyr	Glu	Val		
		355					360					365					
Thr	Leu	Thr	Arg	Trp	Lys	Ser	His	Leu	Gln	Asn	Tyr	Thr	Val	Asn	Ala		
		370				375					380						
Thr	Lys	Leu	Thr	Val	Asn	Leu	Thr	Asn	Asp	Arg	Tyr	Leu	Ala	Thr	Leu		
385					390					395					400		
Thr	Val	Arg	Asn	Leu	Val	Gly	Lys	Ser	Asp	Ala	Ala	Val	Leu	Thr	Ile		
				405					410					415			
Pro	Ala	Cys	Asp	Phe	Gln	Ala	Thr	His	Pro	Val	Met	Asp	Leu	Lys	Ala		
			420					425					430				
Phe	Pro	Lys	Asp	Asn	Met	Leu	Trp	Val	Glu	Trp	Thr	Thr	Pro	Arg	Glu		
		435					440					445					

Ser	Val	Lys	Lys	Tyr	Ile	Leu	Glu	Trp	Cys	Val	Leu	Ser	Asp	Lys	Ala	450	455	460
Pro	Cys	Ile	Thr	Asp	Trp	Gln	Gln	Glu	Asp	Gly	Thr	Val	His	Arg	Thr	465	470	475
Tyr	Leu	Arg	Gly	Asn	Leu	Ala	Glu	Ser	Lys	Cys	Tyr	Leu	Ile	Thr	Val	485	490	495
Thr	Pro	Val	Tyr	Ala	Asp	Gly	Pro	Gly	Ser	Pro	Glu	Ser	Ile	Lys	Ala	500	505	510
Tyr	Leu	Lys	Gln	Ala	Pro	Pro	Ser	Lys	Gly	Pro	Thr	Val	Arg	Thr	Lys	515	520	525
Lys	Val	Gly	Lys	Asn	Glu	Ala	Val	Leu	Glu	Trp	Asp	Gln	Leu	Pro	Val	530	535	540
Asp	Val	Gln	Asn	Gly	Phe	Ile	Arg	Asn	Tyr	Thr	Ile	Phe	Tyr	Arg	Thr	545	550	555
Ile	Ile	Gly	Asn	Glu	Thr	Ala	Val	Asn	Val	Asp	Ser	Ser	His	Thr	Glu	565	570	575
Tyr	Thr	Leu	Ser	Ser	Leu	Thr	Ser	Asp	Thr	Leu	Tyr	Met	Val	Arg	Met	580	585	590
Ala	Ala	Tyr	Thr	Asp	Glu	Gly	Gly	Lys	Asp	Gly	Pro	Glu	Phe	Thr	Phe	595	600	605
Thr	Thr	Pro	Lys	Phe	Ala	Gln	Gly	Glu	Ile	Glu	Ala	Ile	Val	Val	Pro	610	615	620
Val	Cys	Leu	Ala	Phe	Leu	Leu	Thr	Thr	Leu	Leu	Gly	Val	Leu	Phe	Cys	625	630	635
Phe	Asn	Lys	Arg	Asp	Leu	Ile	Lys	Lys	His	Ile	Trp	Pro	Asn	Val	Pro	645	650	655
Asp	Pro	Ser	Lys	Ser	His	Ile	Ala	Gln	Trp	Ser	Pro	His	Thr	Pro	Pro	660	665	670
Arg	His	Asn	Phe	Asn	Ser	Lys	Asp	Gln	Met	Tyr	Ser	Asp	Gly	Asn	Phe	675	680	685
Thr	Asp	Val	Ser	Val	Val	Glu	Ile	Glu	Ala	Asn	Asp	Lys	Lys	Pro	Phe	690	695	700
Pro	Glu	Asp	Leu	Lys	Ser	Leu	Asp	Leu	Phe	Lys	Lys	Glu	Lys	Ile	Asn	705	710	715
Thr	Glu	Gly	His	Ser	Ser	Gly	Ile	Gly	Gly	Ser	Ser	Cys	Met	Ser	Ser	725	730	735
Ser	Arg	Pro	Ser	Ile	Ser	Ser	Ser	Asp	Glu	Asn	Glu	Ser	Ser	Gln	Asn	740	745	750
Thr	Ser	Ser	Thr	Val	Gln	Tyr	Ser	Thr	Val	Val	His	Ser	Gly	Tyr	Arg	755	760	765

His Gln Val Pro Ser Val Gln Val Phe Ser Arg Ser Glu Ser Thr Gln
 770 775 780
 Pro Leu Leu Asp Ser Glu Glu Arg Pro Glu Asp Leu Gln Leu Val Asp
 785 790 795 800
 His Val Asp Gly Gly Asp Gly Ile Leu Pro Arg Gln Gln Tyr Phe Lys
 805 810 815
 Gln Asn Cys Ser Gln His Glu Ser Ser Pro Asp Ile Ser His Phe Glu
 820 825 830
 Arg Ser Lys Gln Val Ser Ser Val Asn Glu Glu Asp Phe Val Arg Leu
 835 840 845
 Lys Gln Gln Ile Ser Asp His Ile Ser Gln Ser Cys Gly Ser Gly Gln
 850 855 860
 Met Lys Met Phe Gln Glu Val Ser Ala Ala Asp Ala Phe Gly Pro Gly
 865 870 875 880
 Thr Glu Gly Gln Val Glu Arg Phe Glu Thr Val Gly Met Glu Ala Ala
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 <211> 2494
 <212> DNA
 <213> Homo sapiens

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<210> 34
<211> 826
<212> PRT
<213> Homo sapiens

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Ala Phe Gly Thr Ser Cys Ser Val Val Leu Tyr Asp Pro Leu Lys Arg
      35             40             45

Val Val Val Thr Asn Leu Asn Gly His Thr Ala Arg Val Asn Cys Ile
      50             55             60

Gln Trp Ile Cys Lys Gln Asp Gly Ser Pro Ser Thr Glu Leu Val Ser
      65             70             75             80

Gly Gly Ser Asp Asn Gln Val Ile His Trp Glu Ile Glu Asp Asn Gln
      85             90             95

Leu Leu Lys Ala Val His Leu Gln Gly His Glu Gly Pro Val Tyr Ala
      100            105            110

Val His Ala Val Tyr Gln Arg Arg Thr Ser Asp Pro Ala Leu Cys Thr
      115            120            125

Leu Ile Val Ser Ala Ala Ala Asp Ser Ala Val Arg Leu Trp Ser Lys
      130            135            140

Lys Gly Pro Glu Val Met Cys Leu Gln Thr Leu Asn Phe Gly Asn Gly
      145            150            155            160

Phe Ala Leu Ala Leu Cys Leu Ser Phe Leu Pro Asn Thr Asp Val Pro
      165            170            175

Ile Leu Ala Cys Gly Asn Asp Asp Cys Arg Ile His Ile Phe Ala Gln
      180            185            190

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Asp	Ile	Ala	Ser	Gln	Pro	Ser	Asp	Glu	Glu	Glu	Leu	Leu	Thr	Ser	Thr	515	520	525
Gly	Phe	Glu	Tyr	Gln	Gln	Val	Ala	Phe	Gln	Pro	Ser	Ile	Leu	Thr	Glu	530	535	540
Pro	Pro	Thr	Glu	Asp	His	Leu	Leu	Gln	Asn	Thr	Leu	Trp	Pro	Glu	Val	545	550	555
Gln	Lys	Leu	Tyr	Gly	His	Gly	Tyr	Glu	Ile	Phe	Cys	Val	Thr	Cys	Asn	565	570	575
Ser	Ser	Lys	Thr	Leu	Leu	Ala	Ser	Ala	Cys	Lys	Ala	Ala	Lys	Lys	Glu	580	585	590
His	Ala	Ala	Ile	Ile	Leu	Trp	Asn	Thr	Thr	Ser	Trp	Lys	Gln	Val	Gln	595	600	605
Asn	Leu	Val	Phe	His	Ser	Leu	Thr	Val	Thr	Gln	Met	Ala	Phe	Ser	Pro	610	615	620
Asn	Glu	Lys	Phe	Leu	Leu	Ala	Val	Ser	Arg	Asp	Arg	Thr	Trp	Ser	Leu	625	630	635
Trp	Lys	Lys	Gln	Asp	Thr	Ile	Ser	Pro	Glu	Phe	Glu	Pro	Val	Phe	Ser	645	650	655
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Cys	Ile	Glu	His	Asn	Ile	Gly	Pro	Cys	Ser	Ser	Val	Leu	Asp	Val	Gly	705	710	715
Gly	Ala	Val	Thr	Ala	Val	Ser	Val	Cys	Pro	Val	Leu	His	Pro	Ser	Gln	725	730	735
Arg	Tyr	Val	Val	Ala	Val	Gly	Leu	Glu	Cys	Gly	Lys	Ile	Cys	Leu	Tyr	740	745	750
Thr	Trp	Lys	Lys	Thr	Asp	Gln	Val	Pro	Glu	Ile	Asn	Asp	Trp	Thr	His	755	760	765
Cys	Val	Glu	Thr	Ser	Gln	Ser	Gln	Ser	His	Thr	Leu	Ala	Ile	Arg	Lys	770	775	780
Leu	Cys	Trp	Lys	Asn	Cys	Ser	Gly	Lys	Thr	Glu	Gln	Lys	Glu	Ala	Glu	785	790	795
Gly	Ala	Glu	Trp	Leu	His	Phe	Ala	Ser	Cys	Gly	Glu	Asp	His	Thr	Val	805	810	815
Lys	Ile	His	Arg	Val	Asn	Lys	Cys	Ala	Leu							820	825	

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 <212> DNA
 <213> Homo sapiens

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<210> 36
 <211> 955
 <212> PRT
 <213> Homo sapiens

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Leu Ala Ala Lys Val Asn Lys His Lys Pro Trp Ile Glu Thr Ser Tyr
    35                      40                      45

His Gly Val Ile Thr Glu Asn Asn Asp Thr Val Ile Leu Asp Pro Pro
    50                      55                      60

Leu Val Ala Leu Asp Lys Asp Ala Pro Val Pro Phe Ala Gly Glu Ile
    65                      70                      75                      80

Cys Ala Phe Lys Ile His Gly Gln Glu Leu Pro Phe Glu Ala Val Val
    85                      90                      95

Leu Asn Lys Thr Ser Gly Glu Gly Arg Leu Arg Ala Lys Ser Pro Ile
    100                      105                      110

Asp Cys Glu Leu Gln Lys Glu Tyr Thr Phe Ile Ile Gln Ala Tyr Asp
    115                      120                      125

Cys Gly Ala Gly Pro His Glu Thr Ala Trp Lys Lys Ser His Lys Ala
    130                      135                      140

Val Val His Ile Gln Val Lys Asp Val Asn Glu Phe Ala Pro Thr Phe
    145                      150                      155                      160

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 Ser Gln Ile Cys Asn Tyr Glu Ile Val Thr Thr Asp Val Pro Phe Ala
 195 200 205
 Ile Asp Arg Asn Gly Asn Ile Arg Asn Thr Glu Lys Leu Ser Tyr Asp
 210 215 220
 Lys Gln His Gln Tyr Glu Ile Leu Val Thr Ala Tyr Asp Cys Gly Gln
 225 230 235 240
 Lys Pro Ala Ala Gln Asp Thr Leu Val Gln Val Asp Val Lys Pro Val
 245 250 255
 Cys Lys Pro Gly Trp Gln Asp Trp Thr Lys Arg Ile Glu Tyr Gln Pro
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 Gly Ser Gly Ser Met Pro Leu Phe Pro Ser Ile His Leu Glu Thr Cys
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 Gln Lys Leu Cys Gly Ala Ser Ser Gly Ile Ile Asp Leu Leu Pro Ser
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 Pro Ser Ala Ala Thr Asn Trp Thr Ala Gly Leu Leu Val Asp Ser Ser
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 Glu Met Ile Phe Lys Phe Asp Gly Arg Gln Gly Ala Lys Ile Pro Asp
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 Gly Ile Val Pro Lys Asn Leu Thr Asp Gln Phe Thr Ile Thr Met Trp
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 Val Val Thr Leu Tyr Met Asp Gly Ala Thr Tyr Glu Pro Tyr Leu Val
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Thr	Asn	Asp	Trp	Pro	Ile	His	Pro	Ser	His	Ile	Ala	Met	Gln	Leu	Thr	485	490	495
Val	Gly	Ala	Cys	Trp	Gln	Gly	Gly	Glu	Val	Thr	Lys	Pro	Gln	Phe	Ala	500	505	510
Gln	Phe	Phe	His	Gly	Ser	Leu	Ala	Ser	Leu	Thr	Ile	Arg	Pro	Gly	Lys	515	520	525
Met	Glu	Ser	Gln	Lys	Val	Ile	Ser	Cys	Leu	Gln	Ala	Cys	Lys	Glu	Gly	530	535	540
Leu	Asp	Ile	Asn	Ser	Leu	Glu	Ser	Leu	Gly	Gln	Gly	Ile	Lys	Tyr	His	545	550	555
Phe	Asn	Pro	Ser	Gln	Ser	Ile	Leu	Val	Met	Glu	Gly	Asp	Asp	Ile	Gly	565	570	575
Asn	Ile	Asn	Arg	Ala	Leu	Gln	Lys	Val	Ser	Tyr	Ile	Asn	Ser	Arg	Gln	580	585	590
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Ile	Lys	Cys	Ser	Glu	Leu	Asn	Gly	Arg	Tyr	Thr	Ser	Asn	Glu	Phe	Asn	770	775	780
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Val Asn His Leu Ile Val Gln Pro Pro Phe Leu Gln Ser Val His His
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Pro Glu Ser Arg Ser Ser Ile Gln His Ser Ser Val Val Pro Ser Ile
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<210> 37
<211> 1284
<212> DNA
<213> Homo sapiens

<400> 37

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<210> 38
 <211> 243
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala Gly Val Pro Gly
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 Arg Asp Gly Ser Pro Gly Ala Asn Gly Ile Pro Gly Thr Pro Gly Ile
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 Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu Cys Leu Arg Glu
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 Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln Cys Ser Trp Ser
 100 105 110
 Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala Glu Cys Thr Phe
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 Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly Ser
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 Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe Thr
 145 150 155 160
 Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile Ile
 165 170 175
 Tyr Leu Asp Gln Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile His
 180 185 190
 Arg Thr Ser Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu
 195 200 205
 Val Asp Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly
 210 215 220
 Asp Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu
 225 230 235 240
 Leu Pro Lys

<210> 39
 <211> 2723
 <212> DNA
 <213> Homo sapiens

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<210> 40
<211> 622
<212> PRT
<213> Homo sapiens

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Leu Asn Thr Cys Leu Leu Asn Gly Gln Leu Pro Pro Gly Lys Pro Glu
20          25          30

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Ile	Phe	Lys	Cys	Arg	Ser	Pro	Asn	Lys	Glu	Thr	Phe	Thr	Cys	Trp	Trp	35	40	45
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His	Arg	Glu	Gly	Glu	Thr	Leu	Met	His	Glu	Cys	Pro	Asp	Tyr	Ile	Thr	65	70	75
Gly	Gly	Pro	Asn	Ser	Cys	His	Phe	Gly	Lys	Gln	Tyr	Thr	Ser	Met	Trp	85	90	95
Arg	Thr	Tyr	Ile	Met	Met	Val	Asn	Ala	Thr	Asn	Gln	Met	Gly	Ser	Ser	100	105	110
Phe	Ser	Asp	Glu	Leu	Tyr	Val	Asp	Val	Thr	Tyr	Ile	Val	Gln	Pro	Asp	115	120	125
Pro	Pro	Leu	Glu	Leu	Ala	Val	Glu	Val	Lys	Gln	Pro	Glu	Asp	Arg	Lys	130	135	140
Pro	Tyr	Leu	Trp	Ile	Lys	Trp	Ser	Pro	Pro	Thr	Leu	Ile	Asp	Leu	Lys	145	150	155
Thr	Gly	Trp	Phe	Thr	Leu	Leu	Tyr	Glu	Ile	Arg	Leu	Lys	Pro	Glu	Lys	165	170	175
Ala	Ala	Glu	Trp	Glu	Ile	His	Phe	Ala	Gly	Gln	Gln	Thr	Glu	Phe	Lys	180	185	190
Ile	Leu	Ser	Leu	His	Pro	Gly	Gln	Lys	Tyr	Leu	Val	Gln	Val	Arg	Cys	195	200	205
Lys	Pro	Asp	His	Gly	Tyr	Trp	Ser	Ala	Trp	Ser	Pro	Ala	Thr	Phe	Ile	210	215	220
Gln	Ile	Pro	Ser	Asp	Phe	Thr	Met	Asn	Asp	Thr	Thr	Val	Trp	Ile	Ser	225	230	235
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Ser	Asp	Tyr	Glu	Asp	Leu	Leu	Val	Glu	Tyr	Leu	Glu	Val	Asp	Asp	Ser	305	310	315
Glu	Asp	Gln	His	Leu	Met	Ser	Val	His	Ser	Lys	Glu	His	Pro	Ser	Gln	325	330	335
Gly	Met	Lys	Pro	Thr	Tyr	Leu	Asp	Pro	Asp	Thr	Asp	Ser	Gly	Arg	Gly	340	345	350

Ser Cys Asp Ser Pro Ser Leu Leu Ser Glu Lys Cys Glu Glu Pro Gln
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 Ala Asn Pro Ser Thr Phe Tyr Asp Pro Glu Val Ile Glu Lys Pro Glu
 370 375 380
 Asn Pro Glu Thr Thr His Thr Trp Asp Pro Gln Cys Ile Ser Met Glu
 385 390 395 400
 Gly Lys Ile Pro Tyr Phe His Ala Gly Gly Ser Lys Cys Ser Thr Trp
 405 410 415
 Pro Leu Pro Gln Pro Ser Gln His Asn Pro Arg Ser Ser Tyr His Asn
 420 425 430
 Ile Thr Asp Val Cys Glu Leu Ala Val Gly Pro Ala Gly Ala Pro Ala
 435 440 445
 Thr Leu Leu Asn Glu Ala Gly Lys Asp Ala Leu Lys Ser Ser Gln Thr
 450 455 460
 Ile Lys Ser Arg Glu Glu Gly Lys Ala Thr Gln Gln Arg Glu Val Glu
 465 470 475 480
 Ser Phe His Ser Glu Thr Asp Gln Asp Thr Pro Trp Leu Leu Pro Gln
 485 490 495
 Glu Lys Thr Pro Phe Gly Ser Ala Lys Pro Leu Asp Tyr Val Glu Ile
 500 505 510
 His Lys Val Asn Lys Asp Gly Ala Leu Ser Leu Leu Pro Lys Gln Arg
 515 520 525
 Glu Asn Ser Gly Lys Pro Lys Lys Pro Gly Thr Pro Glu Asn Asn Lys
 530 535 540
 Glu Tyr Ala Lys Val Ser Gly Val Met Asp Asn Asn Ile Leu Val Leu
 545 550 555 560
 Val Pro Asp Pro His Ala Lys Asn Val Ala Cys Phe Glu Glu Ser Ala
 565 570 575
 Lys Glu Ala Pro Pro Ser Leu Glu Gln Asn Gln Ala Glu Lys Ala Leu
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 595 600 605
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 610 615 620

<210> 41
 <211> 1572
 <212> DNA
 <213> Homo sapiens

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 atcatcaaga catttggtgt cttctttaat gacttaatgg acagttttta tgaatccaat 180

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<210> 42
<211> 523
<212> PRT
<213> Homo sapiens

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<400> 42
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                20                      25                      30

Phe Val Glu Val Phe Thr Tyr Gly Ile Ile Lys Thr Phe Gly Val Phe
    35                      40                      45

Phe Asn Asp Leu Met Asp Ser Phe Asn Glu Ser Asn Ser Arg Ile Ser
    50                      55                      60

Trp Ile Ile Ser Ile Cys Val Phe Val Leu Thr Phe Ser Ala Pro Leu
    65                      70                      75                      80

Ala Thr Val Leu Ser Asn Arg Phe Gly His Arg Leu Val Val Met Leu
                85                      90                      95

Gly Gly Leu Leu Val Ser Thr Gly Met Val Ala Ala Ser Phe Ser Gln
    100                      105                      110

Glu Val Ser His Met Tyr Val Ala Ile Gly Ile Ile Ser Gly Leu Gly
    115                      120                      125

Tyr Cys Phe Ser Phe Leu Pro Thr Val Thr Ile Leu Ser Gln Tyr Phe
    130                      135                      140

Gly Lys Arg Arg Ser Ile Val Thr Ala Val Ala Ser Thr Gly Glu Cys
    145                      150                      155                      160

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Phe	Ala	Val	Phe	Ala	Phe	Ala	Pro	Ala	Ile	Met	Ala	Leu	Lys	Glu	Arg	165	170	175
Ile	Gly	Trp	Arg	Tyr	Ser	Leu	Leu	Phe	Val	Gly	Leu	Leu	Gln	Leu	Asn	180	185	190
Ile	Val	Ile	Phe	Gly	Ala	Leu	Leu	Arg	Pro	Ile	Phe	Ile	Arg	Gly	Pro	195	200	205
Ala	Ser	Pro	Lys	Ile	Val	Ile	Gln	Glu	Asn	Arg	Lys	Glu	Ala	Gln	Tyr	210	215	220
Met	Leu	Glu	Asn	Glu	Lys	Thr	Arg	Thr	Ser	Ile	Asp	Ser	Ile	Asp	Ser	225	230	235
Gly	Val	Glu	Leu	Thr	Thr	Ser	Pro	Lys	Asn	Val	Pro	Thr	His	Thr	Asn	245	250	255
Leu	Glu	Leu	Glu	Pro	Lys	Ala	Asp	Met	Gln	Gln	Val	Leu	Val	Lys	Thr	260	265	270
Ser	Pro	Arg	Pro	Ser	Glu	Lys	Lys	Ala	Pro	Leu	Leu	Asp	Phe	Ser	Ile	275	280	285
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Ser	Leu	Gly	Ile	Asp	Gln	Asp	Arg	Ala	Ala	Phe	Leu	Leu	Ser	Thr	Met	325	330	335
Ala	Ile	Ala	Glu	Val	Phe	Gly	Arg	Ile	Gly	Ala	Gly	Phe	Val	Leu	Asn	340	345	350
Arg	Glu	Pro	Ile	Arg	Lys	Ile	Tyr	Ile	Glu	Leu	Ile	Cys	Val	Ile	Leu	355	360	365
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Leu	Met	Ser	Cys	Ser	Ile	Phe	Phe	Gly	Phe	Met	Val	Gly	Thr	Ile	Gly	385	390	395
Gly	Thr	His	Ile	Pro	Leu	Leu	Ala	Glu	Asp	Asp	Val	Val	Gly	Ile	Glu	405	410	415
Lys	Met	Ser	Ser	Ala	Ala	Gly	Val	Tyr	Ile	Phe	Ile	Gln	Ser	Ile	Ala	420	425	430
Gly	Leu	Ala	Gly	Pro	Pro	Leu	Ala	Gly	Leu	Leu	Val	Asp	Gln	Ser	Lys	435	440	445
Ile	Tyr	Ser	Arg	Ala	Phe	Tyr	Ser	Cys	Ala	Ala	Gly	Met	Ala	Leu	Ala	450	455	460
Ala	Val	Cys	Leu	Ala	Leu	Val	Arg	Pro	Cys	Lys	Met	Gly	Leu	Cys	Gln	465	470	475

His His His Ser Gly Glu Thr Lys Val Val Ser His Arg Gly Lys Thr
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Leu Gln Asp Ile Pro Glu Asp Phe Leu Glu Met Asp Leu Ala Lys Asn
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Glu His Arg Val His Val Gln Met Glu Pro Val
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<210> 43

<211> 3690

<212> DNA

<213> Homo sapiens

<400> 43

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<210> 44
<211> 582
<212> PRT
<213> Homo sapiens

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<400> 44
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Tyr Thr Pro Gly Gly Lys Lys Leu Pro Trp Glu Ala Ser Ile Gly Ala
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His Thr Ser Arg Gly Arg Gly Ser Asp Arg Glu Arg Glu Ser Arg Pro
          35                      40                      45

Glu Ala Ala Gly Leu Leu Trp Asp Arg Ala Ala Ala Gly Glu Ala Glu
          50                      55                      60

Lys Gly Asn Arg Gly Glu Pro Pro Ala Trp Ile Arg Ala Gln Gln Gln
          65                      70                      75                      80

Pro Arg Pro Pro Pro Ala Gly Gln Ala Pro Gly Thr Ala Ala Gly Gly
          85                      90                      95

Ala Gln Asp Pro Arg Leu Arg Pro Gly Arg Ser Arg Gly Arg Val Arg
          100                      105                      110

Leu Pro Val Lys Pro Pro Glu Ala Ser Gly Arg Gln Pro Arg Gly Pro
          115                      120                      125

Ser Asp Cys Ile Pro Arg Phe Pro Ser Ala Ser Ala Thr His Lys Ala
          130                      135                      140

Val Pro Lys Gly Thr Gly Pro Pro Ala Glu Asp Gly Asp Gly Leu Gly
          145                      150                      155                      160

Ala Pro Gly Pro Arg Ala Arg Arg Arg Arg Leu Leu Gly Val Ala Ala
          165                      170                      175

Glu Gly Ser Gly Pro Arg Gly Lys Arg Arg Gly Thr Val Ser Asp Glu
          180                      185                      190

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Ala	Arg	Gly	Ser	Pro	Gly	Pro	Arg	Leu	Leu	Gly	Asp	Arg	Pro	Ala	Leu	195	200	205
Ser	Gly	Asp	Ala	Leu	Ser	Ala	Pro	Arg	Val	Val	Pro	Cys	Gly	Ala	Leu	210	215	220
Ala	Ala	Arg	Pro	Ser	Pro	His	Pro	Gly	Thr	Pro	Leu	Arg	Ser	Cys	Ser	225	230	235
Cys	Cys	Trp	Leu	Arg	Cys	Trp	Arg	Arg	Gly	Arg	Gly	Pro	Ser	Gly	Glu	245	250	255
Tyr	Cys	His	Gly	Trp	Leu	Asp	Ala	Gln	Gly	Val	Trp	Arg	Ile	Gly	Phe	260	265	270
Gln	Cys	Pro	Glu	Arg	Phe	Asp	Gly	Gly	Asp	Ala	Thr	Ile	Cys	Cys	Gly	275	280	285
Ser	Cys	Ala	Leu	Arg	Tyr	Cys	Cys	Ser	Ser	Ala	Glu	Ala	Arg	Leu	Asp	290	295	300
Gln	Gly	Gly	Cys	Asp	Asn	Asp	Arg	Gln	Gln	Gly	Ala	Gly	Glu	Pro	Gly	305	310	315
Arg	Ala	Asp	Lys	Asp	Gly	Pro	Arg	Arg	Leu	Gly	Arg	Ala	Ser	Cys	Leu	325	330	335
Arg	Gly	Thr	Gln	Gly	Asp	Gly	Glu	Gly	Ala	Pro	Pro	Pro	Val	Arg	Ala	340	345	350
Trp	Gln	Arg	Cys	Ser	Pro	Glu	Gly	Ser	Pro	Lys	Gly	Arg	Gln	Leu	Leu	355	360	365
Arg	Ala	Phe	Pro	Gly	Leu	Leu	Pro	Arg	Ala	Arg	Arg	Arg	Gly	Phe	Pro	370	375	380
Ser	Ser	Pro	Arg	Gly	Gly	Pro	Ser	Pro	Leu	Gln	Arg	Pro	Ala	Leu	Pro	385	390	395
Ile	Tyr	Val	Pro	Phe	Leu	Ile	Val	Gly	Ser	Val	Phe	Val	Ala	Phe	Ile	405	410	415
Ile	Leu	Gly	Ser	Leu	Val	Ala	Ala	Cys	Cys	Cys	Arg	Cys	Leu	Arg	Pro	420	425	430
Lys	Gln	Asp	Pro	Gln	Gln	Ser	Arg	Ala	Pro	Gly	Gly	Asn	Arg	Leu	Met	435	440	445
Glu	Thr	Ile	Pro	Met	Ile	Pro	Ser	Ala	Ser	Thr	Ser	Arg	Gly	Ser	Ser	450	455	460
Ser	Arg	Gln	Ser	Ser	Thr	Ala	Ala	Ser	Ser	Ser	Ser	Ser	Ala	Asn	Ser	465	470	475
Gly	Ala	Arg	Ala	Pro	Pro	Thr	Arg	Ser	Gln	Thr	Asn	Cys	Cys	Leu	Pro	485	490	495
Glu	Gly	Thr	Met	Asn	Asn	Val	Tyr	Val	Asn	Met	Pro	Thr	Asn	Phe	Ser	500	505	510

Val Leu Asn Cys Gln Gln Ala Thr Gln Ile Val Pro His Gln Gly Gln
515 520 525

Tyr Leu His Pro Pro Tyr Val Gly Tyr Thr Val Gln His Asp Ser Val
530 535 540

Pro Met Thr Ala Val Pro Pro Phe Met Asp Gly Leu Gln Pro Gly Tyr
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Arg Gln Ile Gln Ser Pro Phe Pro His Thr Asn Ser Glu Gln Lys Met
565 570 575

Tyr Pro Ala Val Thr Val
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<210> 45
<211> 3857
<212> DNA
<213> Homo sapiens

<400> 45

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<210> 46

<211> 1227

<212> PRT

<213> Homo sapiens

<400> 46

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```

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Leu Cys Val Tyr Glu Pro Asp Arg Asn Ala Leu Arg Arg Lys Glu Arg
                20                      25                     30

```

```

Glu Arg Arg Asn Gln Glu Thr Gln Gln Asp Asp Gly Thr Phe Asn Ser
    35                      40                     45

```

```

Ser Tyr Ser Leu Phe Ser Glu Pro Tyr Lys Thr Asn Lys Gly Asp Glu
    50                      55                     60

```

```

Leu Ser Asn Arg Ile Gln Asn Thr Leu Gly Asn Tyr Asp Glu Met Lys
    65                      70                     75                     80

```

```

Asp Phe Leu Thr Asp Arg Thr Asn Gln Ser His Leu Val Gly Val Pro
                85                      90                     95

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Lys Pro Gly Val Pro Gln Thr Pro Val Asn Lys Ile Asp Glu His Phe
    100                      105                     110

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Val Ala Asp Ser Arg Ala Gln Asn Gln Pro Ser Ser Ile Cys Ser Thr
    115                      120                     125

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Thr Thr Ser Thr Pro Ala Ala Val Pro Val Gln Gln Ser Lys Arg Gly
    130                      135                     140

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Thr	Met	Gly	Trp	Gln	Lys	Ala	Gly	His	Pro	Pro	Ser	Asp	Gly	Gln	Gln	145	150	155	160
Arg	Ala	Thr	Gln	Gln	Gly	Ser	Leu	Arg	Thr	Leu	Leu	Gly	Asp	Gly	Val	165	170		175
Gly	Arg	Gln	Gln	Pro	Arg	Ala	Lys	Gln	Val	Cys	Asn	Val	Glu	Val	Gly	180	185		190
Leu	Gln	Thr	Gln	Glu	Arg	Pro	Pro	Ala	Met	Ala	Ala	Lys	His	Ser	Ser	195	200		205
Ser	Gly	His	Cys	Val	Gln	Asn	Phe	Pro	Pro	Ser	Leu	Ala	Ser	Lys	Pro	210	215		220
Ser	Leu	Val	Gln	Gln	Lys	Pro	Thr	Ala	Tyr	Val	Arg	Pro	Met	Asp	Gly	225	230		235
Gln	Asp	Gln	Ala	Pro	Asp	Glu	Ser	Pro	Lys	Leu	Lys	Ser	Ser	Ser	Glu	245	250		255
Thr	Ser	Val	His	Cys	Thr	Ser	Tyr	Arg	Gly	Val	Pro	Ala	Ser	Lys	Pro	260	265		270
Glu	Pro	Ala	Arg	Ala	Lys	Ala	Lys	Leu	Ser	Lys	Phe	Ser	Ile	Pro	Lys	275	280		285
Gln	Gly	Glu	Glu	Ser	Arg	Ser	Gly	Glu	Thr	Asn	Ser	Cys	Val	Glu	Glu	290	295		300
Ile	Ile	Arg	Glu	Met	Thr	Trp	Leu	Pro	Pro	Leu	Ser	Ala	Ile	Gln	Ala	305	310		315
Pro	Gly	Lys	Val	Glu	Pro	Thr	Lys	Phe	Pro	Phe	Pro	Asn	Lys	Asp	Ser	325	330		335
Gln	Leu	Val	Ser	Ser	Gly	His	Asn	Asn	Pro	Lys	Lys	Gly	Asp	Ala	Glu	340	345		350
Pro	Glu	Ser	Pro	Asp	Asn	Gly	Thr	Ser	Asn	Thr	Ser	Met	Leu	Glu	Asp	355	360		365
Asp	Leu	Lys	Leu	Ser	Ser	Asp	Glu	Glu	Glu	Asn	Glu	Gln	Gln	Ala	Ala	370	375		380
Gln	Arg	Thr	Ala	Leu	Arg	Ala	Leu	Ser	Asp	Ser	Ala	Val	Val	Gln	Gln	385	390		395
Pro	Asn	Cys	Arg	Thr	Ser	Val	Pro	Ser	Ser	Lys	Gly	Ser	Ser	Ser	Ser	405	410		415
Ser	Ser	Ser	Gly	Thr	Ser	Ser	Ser	Ser	Ser	Asp	Ser	Glu	Ser	Ser	Ser	420	425		430
Gly	Ser	Asp	Ser	Glu	Thr	Glu	Ser	Ser	Ser	Ser	Glu	Ser	Glu	Gly	Ser	435	440		445
Lys	Pro	Pro	His	Phe	Ser	Ser	Pro	Glu	Ala	Glu	Pro	Ala	Ser	Ser	Asn	450	455		460

Lys	Trp	Gln	Leu	Asp	Lys	Trp	Leu	Asn	Lys	Val	Asn	Pro	His	Lys	Pro	465	470	475	480
Pro	Ile	Leu	Ile	Gln	Asn	Glu	Ser	His	Gly	Ser	Glu	Ser	Asn	Gln	Tyr		485	490	495
Tyr	Asn	Pro	Val	Lys	Glu	Asp	Val	Gln	Asp	Cys	Gly	Lys	Val	Pro	Asp		500	505	510
Val	Cys	Gln	Pro	Ser	Leu	Arg	Glu	Lys	Glu	Ile	Lys	Ser	Thr	Cys	Lys		515	520	525
Glu	Glu	Gln	Arg	Pro	Arg	Thr	Ala	Asn	Lys	Ala	Pro	Gly	Ser	Lys	Gly		530	535	540
Val	Lys	Gln	Lys	Ser	Pro	Pro	Ala	Ala	Val	Ala	Val	Ala	Val	Ser	Ala	545	550	555	560
Ala	Ala	Pro	Pro	Pro	Ala	Val	Pro	Cys	Ala	Pro	Ala	Glu	Asn	Ala	Pro		565	570	575
Ala	Pro	Ala	Arg	Arg	Ser	Ala	Gly	Lys	Lys	Pro	Thr	Arg	Arg	Thr	Glu		580	585	590
Arg	Thr	Ser	Ala	Gly	Asp	Gly	Ala	Asn	Cys	His	Arg	Pro	Glu	Glu	Pro		595	600	605
Ala	Ala	Ala	Asp	Ala	Leu	Gly	Thr	Ser	Val	Val	Val	Pro	Pro	Glu	Pro	610	615	620	
Thr	Lys	Thr	Arg	Pro	Cys	Gly	Asn	Asn	Arg	Ala	Ser	His	Arg	Lys	Glu	625	630	635	640
Leu	Arg	Ser	Ser	Val	Thr	Cys	Glu	Lys	Arg	Arg	Thr	Arg	Gly	Leu	Ser		645	650	655
Arg	Ile	Val	Pro	Lys	Ser	Lys	Glu	Phe	Ile	Glu	Thr	Glu	Ser	Ser	Ser		660	665	670
Ser	Ser	Ser	Ser	Ser	Asp	Ser	Asp	Leu	Glu	Ser	Glu	Gln	Glu	Glu	Tyr		675	680	685
Pro	Leu	Ser	Lys	Ala	Gln	Thr	Val	Ala	Ala	Ser	Ala	Ser	Ser	Gly	Asn	690	695	700	
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Ala	Pro	Val	Gly	Ser	Ile	Asn	Ala	Arg	Thr	Thr	Ser	Asp	Ile	Ala	Lys		725	730	735
Glu	Leu	Glu	Glu	Gln	Phe	Tyr	Thr	Leu	Val	Pro	Phe	Gly	Arg	Asn	Glu		740	745	750
Leu	Leu	Ser	Pro	Leu	Lys	Asp	Ser	Asp	Glu	Ile	Arg	Ser	Leu	Trp	Val		755	760	765
Lys	Ile	Asp	Leu	Thr	Leu	Leu	Ser	Arg	Ile	Pro	Glu	His	Leu	Pro	Gln	770	775	780	

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Pro	Pro	Ser	His	Thr	Ser	Asp	Thr	Pro	Ala	Glu	Lys	Ala	Leu	Pro	Lys		805	810	815
Ser	Lys	Arg	Lys	Arg	Lys	Cys	Asp	Asn	Glu	Asp	Asp	Tyr	Arg	Glu	Ile	820	825		830
Lys	Lys	Ser	Gln	Gly	Glu	Lys	Asp	Ser	Ser	Ser	Arg	Leu	Ala	Thr	Ser	835	840		845
Thr	Ser	Asn	Thr	Leu	Ser	Ala	Asn	His	Cys	Asn	Met	Asn	Ile	Asn	Ser	850	855		860
Val	Ala	Ile	Pro	Ile	Asn	Lys	Asn	Glu	Lys	Met	Leu	Arg	Ser	Pro	Ile	865	870		875
Ser	Pro	Leu	Ser	Asp	Ala	Ser	Lys	His	Lys	Tyr	Thr	Ser	Glu	Asp	Leu		885	890	895
Thr	Ser	Ser	Ser	Arg	Pro	Asn	Gly	Asn	Ser	Leu	Phe	Thr	Ser	Ala	Ser	900	905		910
Ser	Ser	Lys	Lys	Pro	Lys	Ala	Asp	Ser	Gln	Leu	Gln	Pro	His	Gly	Gly	915	920		925
Asp	Leu	Thr	Lys	Ala	Ala	His	Asn	Asn	Ser	Glu	Asn	Ile	Pro	Leu	His	930	935		940
Lys	Ser	Arg	Pro	Gln	Thr	Lys	Pro	Trp	Ser	Pro	Gly	Ser	Asn	Gly	His	945	950	955	960
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Glu	Asp	Lys	Gln	Leu	Ala	Ala	Leu	Cys	Tyr	Arg	Cys	Leu	Ala	Leu	Leu	1060	1065		1070
Tyr	Trp	Arg	Met	Phe	Arg	Leu	Lys	Arg	Asp	His	Ala	Val	Lys	Tyr	Ser	1075	1080		1085
Lys	Ala	Leu	Ile	Asp	Tyr	Phe	Lys	Asn	Ser	Ser	Lys	Ala	Ala	Gln	Ala	1090	1095	1100	

Pro Ser Pro Trp Gly Ala Ser Gly Lys Ser Thr Gly Thr Pro Ser Pro
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Ile Ser Pro Asn Pro Phe Pro Gly Ser Ser Val Gly Ser Gln Gly Ser
1125 1130 1135

Leu Ser Asn Ala Ser Ala Leu Ser Pro Ser Thr Ile Val Ser Ile Pro
1140 1145 1150

Gln Arg Ile His Gln Met Ala Ala Asn His Val Ser Ile Thr Asn Ser
1155 1160 1165

Ile Leu His Ser Tyr Asp Tyr Trp Glu Met Ala Asp Asn Leu Ala Lys
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 gactttttcc tatacatttt atatgtagaa atgtagcaat gtatttgtat agatgtgatc 1140
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<210> 52
 <211> 146
 <212> PRT
 <213> Homo sapiens

<400> 52
 Met Ser Tyr Thr Thr Met Cys Ile Lys Glu Thr Cys Arg Leu Ile Pro
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 Ala Val Pro Ser Ile Ser Arg Asp Leu Ser Lys Pro Leu Thr Phe Pro
 20 25 30
 Asp Gly Cys Thr Leu Pro Ala Gly Ile Thr Val Val Leu Ser Ile Trp
 35 40 45
 Gly Leu His His Asn Pro Ala Val Trp Lys Asn Pro Lys Val Phe Asp
 50 55 60
 Pro Leu Arg Phe Ser Gln Glu Asn Ser Asp Gln Arg His Pro Tyr Ala
 65 70 75 80
 Tyr Leu Pro Phe Ser Ala Gly Ser Arg Asn Cys Ile Gly Gln Glu Phe
 85 90 95
 Ala Met Ile Glu Leu Lys Val Thr Ile Ala Leu Ile Leu Leu His Phe
 100 105 110

Arg Val Thr Pro Asp Pro Thr Arg Pro Leu Thr Phe Pro Asn His Phe
 115 120 125

Ile Leu Lys Pro Lys Asn Gly Met Tyr Leu His Leu Lys Lys Leu Ser
 130 135 140

Glu Cys
 145

<210> 53
 <211> 1533
 <212> DNA
 <213> Homo sapiens

<400> 53
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<210> 54
 <211> 510
 <212> PRT
 <213> Homo sapiens

<400> 54
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 20 25 30
 Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala
 35 40 45
 Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln
 50 55 60

Val	Ala	Trp	Ala	Arg	Val	Asp	Ala	Gly	Glu	Gly	Ala	Gln	Glu	Leu	Ala	65	70	75	80
Leu	Leu	His	Ser	Lys	Tyr	Gly	Leu	His	Val	Ser	Pro	Ala	Tyr	Glu	Gly	85	90	95	
Arg	Val	Glu	Gln	Pro	Pro	Pro	Pro	Arg	Asn	Pro	Leu	Asp	Gly	Ser	Val	100	105	110	
Leu	Leu	Arg	Asn	Ala	Val	Gln	Ala	Asp	Glu	Gly	Glu	Tyr	Glu	Cys	Arg	115	120	125	
Val	Ser	Thr	Phe	Pro	Ala	Gly	Ser	Phe	Gln	Ala	Arg	Leu	Arg	Leu	Arg	130	135	140	
Val	Leu	Val	Pro	Pro	Leu	Pro	Ser	Leu	Asn	Pro	Gly	Pro	Ala	Leu	Glu	145	150	155	160
Glu	Gly	Gln	Gly	Leu	Thr	Leu	Ala	Ala	Ser	Cys	Thr	Ala	Glu	Gly	Ser	165	170	175	
Pro	Ala	Pro	Ser	Val	Thr	Trp	Asp	Thr	Glu	Val	Lys	Gly	Thr	Thr	Ser	180	185	190	
Ser	Arg	Ser	Phe	Lys	His	Ser	Arg	Ser	Ala	Ala	Val	Thr	Ser	Glu	Phe	195	200	205	
His	Leu	Val	Pro	Ser	Arg	Ser	Met	Asn	Gly	Gln	Pro	Leu	Thr	Cys	Val	210	215	220	
Val	Ser	His	Pro	Gly	Leu	Leu	Gln	Asp	Gln	Arg	Ile	Thr	His	Ile	Leu	225	230	235	240
His	Val	Ser	Phe	Leu	Ala	Glu	Ala	Ser	Val	Arg	Gly	Leu	Glu	Asp	Gln	245	250	255	
Asn	Leu	Trp	His	Ile	Gly	Arg	Glu	Gly	Ala	Met	Leu	Lys	Cys	Leu	Ser	260	265	270	
Glu	Gly	Gln	Pro	Pro	Pro	Ser	Tyr	Asn	Trp	Thr	Arg	Leu	Asp	Gly	Pro	275	280	285	
Leu	Pro	Ser	Gly	Val	Arg	Val	Asp	Gly	Asp	Thr	Leu	Gly	Phe	Pro	Pro	290	295	300	
Leu	Thr	Thr	Glu	His	Ser	Gly	Ile	Tyr	Val	Cys	His	Val	Ser	Asn	Glu	305	310	315	320
Phe	Ser	Ser	Arg	Asp	Ser	Gln	Val	Thr	Val	Asp	Val	Leu	Asp	Pro	Gln	325	330	335	
Glu	Asp	Ser	Gly	Lys	Gln	Val	Asp	Leu	Val	Ser	Ala	Ser	Val	Val	Val	340	345	350	
Val	Gly	Val	Ile	Ala	Ala	Leu	Leu	Phe	Cys	Leu	Leu	Val	Val	Val	Val	355	360	365	
Val	Leu	Met	Ser	Arg	Tyr	His	Arg	Arg	Lys	Ala	Gln	Gln	Met	Thr	Gln	370	375	380	

Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg
 385 390 395 400
 Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val
 405 410 415
 Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser
 420 425 430
 Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu
 435 440 445
 Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly
 450 455 460
 Ser Gly Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln
 465 470 475 480
 Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro
 485 490 495
 Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
 500 505 510

<210> 55
 <211> 2642
 <212> DNA
 <213> Homo sapiens

<400> 55
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2642

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<210> 56
<211> 550
<212> PRT
<213> Homo sapiens

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<400> 56
Met Thr Ala Leu Asp Leu Phe Leu Thr Asn Gln Phe Ser Glu Ala Leu
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Ser Tyr Leu Lys Pro Arg Thr Lys Glu Ser Met Tyr His Ser Leu Thr
          20              25              30

Tyr Ala Thr Ile Leu Glu Met Gln Ala Met Met Thr Phe Asp Pro Gln
  35              40              45

Asp Ile Leu Leu Ala Gly Asn Met Met Lys Glu Ala Gln Met Leu Cys
  50              55              60

Gln Arg His Arg Arg Lys Ser Ser Val Thr Asp Ser Phe Ser Ser Leu
  65              70              75              80

Val Asn Arg Pro Thr Leu Gly Gln Phe Thr Glu Glu Glu Ile His Ala
          85              90              95

Glu Val Cys Tyr Ala Glu Cys Leu Leu Gln Arg Ala Ala Leu Thr Phe
  100              105              110

Leu Gln Asp Glu Asn Met Val Ser Phe Ile Lys Gly Gly Ile Lys Val
  115              120              125

Arg Asn Ser Tyr Gln Thr Tyr Lys Glu Leu Asp Ser Leu Val Gln Ser
  130              135              140

Ser Gln Tyr Cys Lys Gly Glu Asn His Pro His Phe Glu Gly Gly Val
  145              150              155              160

Lys Leu Gly Val Gly Ala Phe Asn Leu Thr Leu Ser Met Leu Pro Thr
          165              170              175

Arg Ile Leu Arg Leu Leu Glu Phe Val Gly Phe Ser Gly Asn Lys Asp
          180              185              190

Tyr Gly Leu Leu Gln Leu Glu Glu Gly Ala Ser Gly His Ser Phe Arg
  195              200              205

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Ser	Val	Leu	Cys	Val	Met	Leu	Leu	Leu	Cys	Tyr	His	Thr	Phe	Leu	Thr	210	215	220
Phe	Val	Leu	Gly	Thr	Gly	Asn	Val	Asn	Ile	Glu	Glu	Ala	Glu	Lys	Leu	225	230	235
Leu	Lys	Pro	Tyr	Leu	Asn	Arg	Tyr	Pro	Lys	Gly	Ala	Ile	Phe	Leu	Phe	245	250	255
Phe	Ala	Gly	Arg	Ile	Glu	Val	Ile	Lys	Gly	Asn	Ile	Asp	Ala	Ala	Ile	260	265	270
Arg	Arg	Phe	Glu	Glu	Cys	Cys	Glu	Ala	Gln	Gln	His	Trp	Lys	Gln	Phe	275	280	285
His	His	Met	Cys	Tyr	Trp	Glu	Leu	Met	Trp	Cys	Phe	Thr	Tyr	Lys	Gly	290	295	300
Gln	Trp	Lys	Met	Ser	Tyr	Phe	Tyr	Ala	Asp	Leu	Leu	Ser	Lys	Glu	Asn	305	310	315
Cys	Trp	Ser	Lys	Ala	Thr	Tyr	Ile	Tyr	Met	Lys	Ala	Ala	Tyr	Leu	Ser	325	330	335
Met	Phe	Gly	Lys	Glu	Asp	His	Lys	Pro	Phe	Gly	Asp	Asp	Glu	Val	Glu	340	345	350
Leu	Phe	Arg	Ala	Val	Pro	Gly	Leu	Lys	Leu	Lys	Ile	Ala	Gly	Lys	Ser	355	360	365
Leu	Pro	Thr	Glu	Lys	Phe	Ala	Ile	Arg	Lys	Ser	Arg	Arg	Tyr	Phe	Ser	370	375	380
Ser	Asn	Pro	Ile	Ser	Leu	Pro	Val	Pro	Ala	Leu	Glu	Met	Met	Tyr	Ile	385	390	395
Trp	Asn	Gly	Tyr	Ala	Val	Ile	Gly	Lys	Gln	Pro	Lys	Leu	Thr	Asp	Gly	405	410	415
Ile	Leu	Glu	Ile	Ile	Thr	Lys	Ala	Glu	Glu	Met	Leu	Glu	Lys	Gly	Pro	420	425	430
Glu	Asn	Glu	Tyr	Ser	Val	Asp	Asp	Glu	Cys	Leu	Val	Lys	Leu	Leu	Lys	435	440	445
Gly	Leu	Cys	Leu	Lys	Tyr	Leu	Gly	Arg	Val	Gln	Glu	Ala	Glu	Glu	Asn	450	455	460
Phe	Arg	Ser	Ile	Ser	Ala	Asn	Glu	Lys	Lys	Ile	Lys	Tyr	Asp	His	Tyr	465	470	475
Leu	Ile	Pro	Asn	Ala	Leu	Leu	Glu	Leu	Ala	Leu	Leu	Leu	Met	Glu	Gln	485	490	495
Asp	Arg	Asn	Glu	Glu	Ala	Ile	Lys	Leu	Leu	Glu	Ser	Ala	Lys	Gln	Asn	500	505	510
Tyr	Lys	Asn	Tyr	Ser	Met	Glu	Ser	Arg	Thr	His	Phe	Arg	Ile	Gln	Ala	515	520	525

Ala Thr Leu Gln Ala Lys Ser Ser Leu Glu Asn Ser Ser Arg Ser Met
 530 535 540

Val Ser Ser Val Ser Leu
 545 550

<210> 57
 <211> 927
 <212> DNA
 <213> Homo sapiens

<400> 57
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 cagtgcctcg cgctgtgcca gtgctccgag gcagcgcgca cagtcaagtg cgtaaacgc 240
 aatctgaccg aggtgcccac ggacctgccc gcctacgtgc gcaacctctt ccttacccgc 300
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 agcctcaggc acctggactt aagtaataat tcgctgggtga gcctgacctc cgtgtccttc 420
 cgcaacctga cacatctaga aagcctccac ctggaggaca atgccctcaa ggtccttcac 480
 aatggcaccc tggctgagtt gcaaggtcta cccacatta gggttttcct ggacaacaat 540
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<210> 58
 <211> 308
 <212> PRT
 <213> Homo sapiens

<400> 58
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 Arg Leu Ala Arg Leu Ala Leu Val Leu Leu Gly Trp Val Ser Ser Ser
 20 25 30
 Ser Pro Thr Ser Ser Ala Ser Ser Phe Ser Ser Ser Ala Pro Phe Leu
 35 40 45
 Ala Ser Ala Val Ser Ala Gln Pro Pro Leu Pro Asp Gln Cys Pro Ala
 50 55 60
 Leu Cys Glu Cys Ser Glu Ala Ala Arg Thr Val Lys Cys Val Asn Arg
 65 70 75 80
 Asn Leu Thr Glu Val Pro Thr Asp Leu Pro Ala Tyr Val Arg Asn Leu
 85 90 95
 Phe Leu Thr Gly Asn Gln Leu Ala Ser Asn His Phe Leu Tyr Leu Pro
 100 105 110
 Arg Asp Val Leu Ala Gln Leu Pro Ser Leu Arg His Leu Asp Leu Ser
 115 120 125

Asn Asn Ser Leu Val Ser Leu Thr Tyr Val Ser Phe Arg Asn Leu Thr
 130 135 140
 His Leu Glu Ser Leu His Leu Glu Asp Asn Ala Leu Lys Val Leu His
 145 150 155 160
 Asn Gly Thr Leu Ala Glu Leu Gln Gly Leu Pro His Ile Arg Val Phe
 165 170 175
 Leu Asp Asn Asn Pro Trp Val Cys Asp Cys His Met Ala Asp Met Val
 180 185 190
 Thr Trp Leu Lys Glu Thr Glu Val Val Gln Gly Lys Asp Arg Leu Thr
 195 200 205
 Cys Ala Tyr Pro Glu Lys Met Arg Asn Arg Val Leu Leu Glu Leu Asn
 210 215 220
 Ser Ala Asp Leu Asp Cys Asp Pro Ile Leu Pro Pro Ser Leu Gln Thr
 225 230 235 240
 Ser Tyr Val Phe Leu Gly Ile Val Leu Ala Leu Ile Gly Ala Ile Phe
 245 250 255
 Leu Leu Val Leu Tyr Leu Asn Arg Lys Gly Ile Lys Lys Trp Met His
 260 265 270
 Asn Ile Arg Asp Ala Cys Arg Asp His Met Glu Gly Tyr His Tyr Arg
 275 280 285
 Tyr Glu Ile Asn Ala Asp Pro Arg Leu Thr Asn Leu Ser Ser Asn Ser
 290 295 300
 Asp Val Leu Glu
 305

<210> 59
 <211> 1362
 <212> DNA
 <213> Homo sapiens

<400> 59
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 ctgtcactgc tgccattgaa gttttttcca atcatcgtca ttgggatcat tgcattgata 180
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 aacatgtcct tgctctcgca gtggcccttg caggccagcc ttcagttcca gggctaccac 720
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<210> 60
<211> 453
<212> PRT
<213> Homo sapiens

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<400> 60
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Ser Leu Phe Gly Leu Asp Asp Leu Lys Ile Ser Pro Val Ala Pro Asp
          20             25             30

Ala Asp Ala Val Ala Ala Gln Ile Leu Ser Leu Leu Pro Leu Lys Phe
          35             40             45

Phe Pro Ile Ile Val Ile Gly Ile Ile Ala Leu Ile Leu Ala Leu Ala
          50             55             60

Ile Gly Leu Gly Ile His Phe Asp Cys Ser Gly Lys Tyr Arg Cys Arg
          65             70             75             80

Ser Ser Phe Lys Cys Ile Glu Leu Ile Ala Arg Cys Asp Gly Val Ser
          85             90             95

Asp Cys Lys Asp Gly Glu Asp Glu Tyr Arg Cys Val Arg Val Gly Gly
          100            105            110

Gln Asn Ala Val Leu Gln Val Phe Thr Ala Ala Ser Trp Lys Thr Met
          115            120            125

Cys Ser Asp Asp Trp Lys Gly His Tyr Ala Asn Val Ala Cys Ala Gln
          130            135            140

Leu Gly Phe Pro Ser Tyr Val Ser Ser Asp Asn Leu Arg Val Ser Ser
          145            150            155            160

Leu Glu Gly Gln Phe Arg Glu Glu Phe Val Ser Ile Asp His Leu Leu
          165            170            175

Pro Asp Asp Lys Val Thr Ala Leu His His Ser Val Tyr Val Arg Glu
          180            185            190

Gly Cys Ala Ser Gly His Val Val Thr Leu Gln Cys Thr Ala Cys Gly
          195            200            205

His Arg Arg Gly Tyr Ser Ser Arg Ile Val Gly Gly Asn Met Ser Leu
          210            215            220

Leu Ser Gln Trp Pro Trp Gln Ala Ser Leu Gln Phe Gln Gly Tyr His
          225            230            235            240

Leu Cys Gly Gly Ser Val Ile Thr Pro Leu Trp Ile Ile Thr Ala Ala
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 Gly Leu Val Ser Leu Leu Asp Asn Pro Ala Pro Ser His Leu Val Glu
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 Lys Ile Val Tyr His Ser Lys Tyr Lys Pro Lys Arg Leu Gly Asn Asp
 290 295 300
 Ile Ala Leu Met Lys Leu Ala Gly Pro Leu Thr Phe Asn Glu Met Ile
 305 310 315 320
 Gln Pro Val Cys Leu Pro Asn Ser Glu Glu Asn Phe Pro Asp Gly Lys
 325 330 335
 Val Cys Trp Thr Ser Gly Trp Gly Ala Thr Glu Asp Gly Gly Asp Ala
 340 345 350
 Ser Pro Val Leu Asn His Ala Ala Val Pro Leu Ile Ser Asn Lys Ile
 355 360 365
 Cys Asn His Arg Asp Val Tyr Gly Gly Ile Ile Ser Pro Ser Met Leu
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 Cys Ala Gly Tyr Leu Thr Gly Gly Val Asp Ser Cys Gln Gly Asp Ser
 385 390 395 400
 Gly Gly Pro Leu Val Cys Gln Glu Arg Arg Leu Trp Lys Leu Val Gly
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 Ala Thr Ser Phe Gly Ile Gly Cys Ala Glu Val Asn Lys Pro Gly Val
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 Arg Asp Leu Lys Thr
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 <211> 3229
 <212> DNA
 <213> Homo sapiens

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<210> 62

<211> 836

<212> PRT

<213> Homo sapiens

<400> 62

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Met Ile Pro Phe Leu Pro Met Phe Ser Leu Leu Leu Leu Leu Ile Val
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Asn Pro Ile Asn Ala Asn Asn His Tyr Asp Lys Ile Leu Ala His Ser
      20                      25                      30

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Arg Ile Arg Gly Arg Asp Gln Gly Pro Asn Val Cys Ala Leu Gln Gln
      35                      40                      45

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Ile Leu Gly Thr Lys Lys Lys Tyr Phe Ser Thr Cys Lys Asn Trp Tyr
      50                      55                      60

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Lys Lys Ser Ile Cys Gly Gln Lys Thr Thr Val Leu Tyr Glu Cys Cys
      65                      70                      75                      80

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Pro	Gly	Tyr	Met	Arg	Met	Glu	Gly	Met	Lys	Gly	Cys	Pro	Ala	Val	Leu	85	90	95
Pro	Ile	Asp	His	Val	Tyr	Gly	Thr	Leu	Gly	Ile	Val	Gly	Ala	Thr	Thr	100	105	110
Thr	Gln	Arg	Tyr	Ser	Asp	Ala	Ser	Lys	Leu	Arg	Glu	Glu	Ile	Glu	Gly	115	120	125
Lys	Gly	Ser	Phe	Thr	Tyr	Phe	Ala	Pro	Ser	Asn	Glu	Ala	Trp	Asp	Asn	130	135	140
Leu	Asp	Ser	Asp	Ile	Arg	Arg	Gly	Leu	Glu	Ser	Asn	Val	Asn	Val	Glu	145	150	155
Leu	Leu	Asn	Ala	Leu	His	Ser	His	Met	Ile	Asn	Lys	Arg	Met	Leu	Thr	165	170	175
Lys	Asp	Leu	Lys	Asn	Gly	Met	Ile	Ile	Pro	Ser	Met	Tyr	Asn	Asn	Leu	180	185	190
Gly	Leu	Phe	Ile	Asn	His	Tyr	Pro	Asn	Gly	Val	Val	Thr	Val	Asn	Cys	195	200	205
Ala	Arg	Ile	Ile	His	Gly	Asn	Gln	Ile	Ala	Thr	Asn	Gly	Val	Val	His	210	215	220
Val	Ile	Asp	Arg	Val	Leu	Thr	Gln	Ile	Gly	Thr	Ser	Ile	Gln	Asp	Phe	225	230	235
Ile	Glu	Ala	Glu	Asp	Asp	Leu	Ser	Ser	Phe	Arg	Ala	Ala	Ala	Ile	Thr	245	250	255
Ser	Asp	Ile	Leu	Glu	Ala	Leu	Gly	Arg	Asp	Gly	His	Phe	Thr	Leu	Phe	260	265	270
Ala	Pro	Thr	Asn	Glu	Ala	Phe	Glu	Lys	Leu	Pro	Arg	Gly	Val	Leu	Glu	275	280	285
Arg	Phe	Met	Gly	Asp	Lys	Val	Ala	Ser	Glu	Ala	Leu	Met	Lys	Tyr	His	290	295	300
Ile	Leu	Asn	Thr	Leu	Gln	Cys	Ser	Glu	Ser	Ile	Met	Gly	Gly	Ala	Val	305	310	315
Phe	Glu	Thr	Leu	Glu	Gly	Asn	Thr	Ile	Glu	Ile	Gly	Cys	Asp	Gly	Asp	325	330	335
Ser	Ile	Thr	Val	Asn	Gly	Ile	Lys	Met	Val	Asn	Lys	Lys	Asp	Ile	Val	340	345	350
Thr	Asn	Asn	Gly	Val	Ile	His	Leu	Ile	Asp	Gln	Val	Leu	Ile	Pro	Asp	355	360	365
Ser	Ala	Lys	Gln	Val	Ile	Glu	Leu	Ala	Gly	Lys	Gln	Gln	Thr	Thr	Phe	370	375	380
Thr	Asp	Leu	Val	Ala	Gln	Leu	Gly	Leu	Ala	Ser	Ala	Leu	Arg	Pro	Asp	385	390	395

Gly	Glu	Tyr	Thr	Leu	Leu	Ala	Pro	Val	Asn	Asn	Ala	Phe	Ser	Asp	Asp	
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Thr	Leu	Ser	Met	Val	Gln	Arg	Leu	Leu	Lys	Leu	Ile	Leu	Gln	Asn	His	
			420					425					430			
Ile	Leu	Lys	Val	Lys	Val	Gly	Leu	Asn	Glu	Leu	Tyr	Asn	Gly	Gln	Ile	
		435					440					445				
Leu	Glu	Thr	Ile	Gly	Gly	Lys	Gln	Leu	Arg	Val	Phe	Val	Tyr	Arg	Thr	
	450					455					460					
Ala	Val	Cys	Ile	Glu	Asn	Ser	Cys	Met	Glu	Lys	Gly	Ser	Lys	Gln	Gly	
465					470					475					480	
Arg	Asn	Gly	Ala	Ile	His	Ile	Phe	Arg	Glu	Ile	Ile	Lys	Pro	Ala	Glu	
				485					490					495		
Lys	Ser	Leu	His	Glu	Lys	Leu	Lys	Gln	Asp	Lys	Arg	Phe	Ser	Thr	Phe	
			500					505					510			
Leu	Ser	Leu	Leu	Glu	Ala	Ala	Asp	Leu	Lys	Glu	Leu	Leu	Thr	Gln	Pro	
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Gly	Asp	Trp	Thr	Leu	Phe	Val	Pro	Thr	Asn	Asp	Ala	Phe	Lys	Gly	Met	
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Thr	Ser	Glu	Glu	Lys	Glu	Ile	Leu	Ile	Arg	Asp	Lys	Asn	Ala	Leu	Gln	
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Asn	Ile	Ile	Leu	Tyr	His	Leu	Thr	Pro	Gly	Val	Phe	Ile	Gly	Lys	Gly	
				565					570					575		
Phe	Glu	Pro	Gly	Val	Thr	Asn	Ile	Leu	Lys	Thr	Thr	Gln	Gly	Ser	Lys	
			580					585					590			
Ile	Phe	Leu	Lys	Glu	Val	Asn	Asp	Thr	Leu	Leu	Val	Asn	Glu	Leu	Lys	
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Ser	Lys	Glu	Ser	Asp	Ile	Met	Thr	Thr	Asn	Gly	Val	Ile	His	Val	Val	
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Asp	Lys	Leu	Leu	Tyr	Pro	Ala	Asp	Thr	Pro	Val	Gly	Asn	Asp	Gln	Leu	
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Leu	Glu	Ile	Leu	Asn	Lys	Leu	Ile	Lys	Tyr	Ile	Gln	Ile	Lys	Phe	Val	
				645					650					655		
Arg	Gly	Ser	Thr	Phe	Lys	Glu	Ile	Pro	Val	Thr	Val	Tyr	Thr	Thr	Lys	
			660					665					670			
Ile	Ile	Thr	Lys	Val	Val	Glu	Pro	Lys	Ile	Lys	Val	Ile	Glu	Gly	Ser	
		675					680					685				
Leu	Gln	Pro	Ile	Ile	Lys	Thr	Glu	Gly	Pro	Thr	Leu	Thr	Lys	Val	Lys	
	690					695					700					
Ile	Glu	Gly	Glu	Pro	Glu	Phe	Arg	Leu	Ile	Lys	Glu	Gly	Glu	Thr	Ile	
705					710					715					720	

Thr Glu Val Ile His Gly Glu Pro Ile Ile Lys Lys Tyr Thr Lys Ile
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 Ile Asp Gly Val Pro Val Glu Ile Thr Glu Lys Glu Thr Arg Glu Glu
 740 745 750
 Arg Ile Ile Thr Gly Pro Glu Ile Lys Tyr Thr Arg Ile Ser Thr Gly
 755 760 765
 Gly Gly Glu Thr Glu Glu Thr Leu Lys Lys Leu Leu Gln Glu Glu Val
 770 775 780
 Thr Lys Val Thr Lys Phe Ile Glu Gly Gly Asp Gly His Leu Phe Glu
 785 790 795 800
 Asp Glu Glu Ile Lys Arg Leu Leu Gln Gly Asp Thr Pro Val Arg Lys
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 Gly Arg Ser Gln
 835

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 <211> 3737
 <212> DNA
 <213> Homo sapiens

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<210> 64
 <211> 999
 <212> PRT
 <213> Homo sapiens

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<400> 64
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          20                      25                      30

Pro Pro Gly Arg Gly Arg Ala Ala Gly Pro Gln Glu Asp Val Asp Glu
          35                      40                      45

Cys Ala Gln Gly Leu Asp Asp Cys His Ala Asp Ala Leu Cys Gln Asn
          50                      55                      60

Thr Pro Thr Ser Tyr Lys Cys Ser Cys Lys Pro Gly Tyr Gln Gly Glu
          65                      70                      75                      80

Gly Arg Gln Cys Glu Asp Ile Asp Glu Cys Gly Asn Glu Leu Asn Gly
          85                      90                      95

Gly Cys Val His Asp Cys Leu Asn Ile Pro Gly Asn Tyr Arg Cys Thr
          100                      105                      110

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Cys	Phe	Asp	Gly	Phe	Met	Leu	Ala	His	Asp	Gly	His	Asn	Cys	Leu	Asp	115	120	125
Val	Asp	Glu	Cys	Leu	Glu	Asn	Asn	Gly	Gly	Cys	Gln	His	Thr	Cys	Val	130	135	140
Asn	Val	Met	Gly	Ser	Tyr	Glu	Cys	Cys	Cys	Lys	Glu	Gly	Phe	Phe	Leu	145	150	155
Ser	Asp	Asn	Gln	His	Thr	Cys	Ile	His	Arg	Ser	Glu	Glu	Gly	Leu	Ser	165	170	175
Cys	Met	Asn	Lys	Asp	His	Gly	Cys	Ser	His	Ile	Cys	Lys	Glu	Ala	Pro	180	185	190
Arg	Gly	Ser	Val	Ala	Cys	Glu	Cys	Arg	Pro	Gly	Phe	Glu	Leu	Ala	Lys	195	200	205
Asn	Gln	Arg	Asp	Cys	Ile	Leu	Thr	Cys	Asn	His	Gly	Asn	Gly	Gly	Cys	210	215	220
Gln	His	Ser	Cys	Asp	Asp	Thr	Ala	Asp	Gly	Pro	Glu	Cys	Ser	Cys	His	225	230	235
Pro	Gln	Tyr	Lys	Met	His	Thr	Asp	Gly	Arg	Ser	Cys	Leu	Glu	Arg	Glu	245	250	255
Asp	Thr	Val	Leu	Glu	Val	Thr	Glu	Ser	Asn	Thr	Thr	Ser	Val	Val	Asp	260	265	270
Gly	Asp	Lys	Arg	Val	Lys	Arg	Arg	Leu	Leu	Met	Glu	Thr	Cys	Ala	Val	275	280	285
Asn	Asn	Gly	Gly	Cys	Asp	Arg	Thr	Cys	Lys	Asp	Thr	Ser	Thr	Gly	Val	290	295	300
His	Cys	Ser	Cys	Pro	Val	Gly	Phe	Thr	Leu	Gln	Leu	Asp	Gly	Lys	Thr	305	310	315
Cys	Lys	Asp	Ile	Asp	Glu	Cys	Gln	Thr	Arg	Asn	Gly	Gly	Cys	Asp	His	325	330	335
Phe	Cys	Lys	Asn	Ile	Val	Gly	Ser	Phe	Asp	Cys	Gly	Cys	Lys	Lys	Gly	340	345	350
Phe	Lys	Leu	Leu	Thr	Asp	Glu	Lys	Ser	Cys	Gln	Asp	Val	Asp	Glu	Cys	355	360	365
Ser	Leu	Asp	Arg	Thr	Cys	Asp	His	Ser	Cys	Ile	Asn	His	Pro	Gly	Thr	370	375	380
Phe	Ala	Cys	Ala	Cys	Asn	Arg	Gly	Tyr	Thr	Leu	Tyr	Gly	Phe	Thr	His	385	390	395
Cys	Gly	Asp	Thr	Asn	Glu	Cys	Ser	Ile	Asn	Asn	Gly	Gly	Cys	Gln	Gln	405	410	415
Val	Cys	Val	Asn	Thr	Val	Gly	Ser	Tyr	Glu	Cys	Gln	Cys	His	Pro	Gly	420	425	430

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 Pro Gly Ala Asp Gly Lys Ala Phe Gln Lys Ser Lys Trp Thr Pro Leu
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<211> 1294

<212> PRT

<213> Homo sapiens

<400> 68

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Glu Phe Ser Ala Asp Gln Met Ser Glu Asn Thr Asp Gln Ser Asp Ala
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Ala Glu Leu Asn His Lys Glu Glu His Ser Leu His Val Gln Asp Pro
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 Ala Asp Trp Leu Arg Phe Trp Ser Lys Tyr Lys Leu Ser Val Pro Gly
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<213> Homo sapiens

<400> 70

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Val Lys Val Asp Thr Val Leu Phe Glu Ser Leu Tyr His Cys Gly Phe
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Glu His Gly Ser Val Met His Cys Leu Gly Asp Asp His Pro Gln Glu
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Asp Arg Lys Ala His Phe Ser Ala Pro Val Ala Ala Ile Ala Ser Pro
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<212> DNA

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<210> 72
<211> 386
<212> PRT
<213> Homo sapiens

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<400> 72
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Ile Arg Glu Asp Tyr Pro Gln Lys Glu Ile Leu Arg Ala Leu Lys Ala
          20              25              30

Lys Cys Cys Glu Glu Glu Leu Asp Phe Arg Ala Val Val Met Asp Glu
          35              40              45

Val Val Leu Thr Ile Glu Gln Gly Asn Leu Gly Leu Arg Ile Asn Gly
          50              55              60

Glu Leu Ile Thr Ala Tyr Pro Gln Val Val Val Val Arg Val Pro Thr
          65              70              75              80

Pro Trp Val Gln Ser Asp Ser Asp Ile Thr Val Leu Arg His Leu Glu
          85              90              95

Lys Met Gly Cys Arg Leu Met Asn Arg Pro Gln Ala Ile Leu Asn Cys
          100             105             110

Val Asn Lys Phe Trp Thr Phe Gln Glu Leu Ala Gly His Gly Val Pro
          115             120             125

Leu Pro Asp Thr Phe Ser Tyr Gly Gly His Glu Asn Phe Ala Lys Met
          130             135             140

Ile Asp Glu Ala Glu Val Leu Glu Phe Pro Met Val Val Lys Asn Thr
          145             150             155             160

Arg Gly His Arg Gly Lys Ala Val Phe Leu Ala Arg Asp Lys His His
          165             170             175

Leu Ala Asp Leu Ser His Leu Ile Arg His Glu Ala Pro Tyr Leu Phe
          180             185             190

Gln Lys Tyr Val Lys Glu Ser His Gly Arg Asp Val Arg Val Ile Val
          195             200             205

Val Gly Gly Arg Val Val Gly Thr Met Leu Arg Cys Ser Thr Asp Gly
          210             215             220

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Arg Met Gln Ser Asn Cys Ser Leu Gly Gly Val Gly Met Met Cys Ser
 225 230 235 240
 Leu Ser Glu Gln Gly Lys Gln Leu Ala Ile Gln Val Ser Asn Ile Leu
 245 250 255
 Gly Met Asp Val Cys Gly Ile Asp Leu Leu Met Lys Asp Asp Gly Ser
 260 265 270
 Phe Cys Val Cys Glu Ala Asn Ala Asn Val Gly Phe Ile Ala Phe Asp
 275 280 285
 Lys Ala Cys Asn Leu Asp Val Ala Gly Ile Ile Ala Asp Tyr Ala Ala
 290 295 300
 Ser Leu Leu Pro Ser Gly Arg Leu Thr Arg Arg Met Ser Leu Leu Ser
 305 310 315 320
 Val Val Ser Thr Ala Ser Glu Thr Ser Glu Pro Glu Leu Gly Pro Pro
 325 330 335
 Ala Ser Thr Ala Val Asp Asn Met Ser Ala Ser Ser Ser Ser Val Asp
 340 345 350
 Ser Asp Pro Glu Ser Thr Glu Arg Glu Leu Leu Thr Lys Leu Pro Gly
 355 360 365
 Gly Leu Phe Asn Met Asn Gln Leu Leu Ala Asn Glu Ile Lys Leu Leu
 370 375 380
 Val Asp
 385

<210> 73
 <211> 1431
 <212> DNA
 <213> Homo sapiens

<400> 73
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 gtgagggagt gacagcagcg cattcgcggg acgagagcga tgagtgagaa cgccgcacca 180
 ggtctgatct cagagctgaa gctggctgtg ccctggggcc acatcgagc caaagcctgg 240
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<210> 74
 <211> 314
 <212> PRT
 <213> Homo sapiens

<400> 74
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 Val Pro Trp Gly His Ile Ala Ala Lys Ala Trp Gly Ser Leu Gln Gly
 20 25 30
 Pro Pro Val Leu Cys Leu His Gly Trp Leu Asp Asn Ala Ser Ser Phe
 35 40 45
 Asp Arg Leu Ile Pro Leu Leu Pro Gln Asp Phe Tyr Tyr Val Ala Met
 50 55 60
 Asp Phe Gly Gly His Gly Leu Ser Ser His Tyr Ser Pro Gly Val Pro
 65 70 75 80
 Tyr Tyr Leu Gln Thr Phe Val Ser Glu Ile Arg Arg Val Val Ala Ala
 85 90 95
 Leu Lys Trp Asn Arg Phe Ser Ile Leu Gly His Ser Phe Gly Gly Val
 100 105 110
 Val Gly Gly Met Phe Phe Cys Thr Phe Pro Glu Met Val Asp Lys Leu
 115 120 125
 Ile Leu Leu Asp Thr Pro Leu Phe Leu Leu Glu Ser Asp Glu Met Glu
 130 135 140
 Asn Leu Leu Thr Tyr Lys Arg Arg Ala Ile Glu His Val Leu Gln Val
 145 150 155 160
 Glu Ala Ser Gln Glu Pro Ser His Val Phe Ser Leu Lys Gln Leu Leu
 165 170 175
 Gln Arg Leu Leu Lys Ser Asn Ser His Leu Ser Glu Glu Cys Gly Glu
 180 185 190
 Leu Leu Leu Gln Arg Gly Thr Thr Lys Val Ala Thr Gly Leu Val Leu
 195 200 205
 Asn Arg Asp Gln Arg Leu Ala Trp Ala Glu Asn Ser Ile Asp Phe Ile
 210 215 220
 Ser Arg Glu Leu Cys Ala His Ser Ile Arg Lys Leu Gln Ala His Val
 225 230 235 240
 Leu Leu Ile Lys Ala Val His Gly Tyr Phe Asp Ser Arg Gln Asn Tyr
 245 250 255
 Ser Glu Lys Glu Ser Leu Ser Phe Met Ile Asp Thr Met Lys Ser Thr
 260 265 270

Leu Lys Glu Gln Phe Gln Phe Val Glu Val Pro Gly Asn His Cys Val
 275 280 285

His Met Ser Glu Pro Gln His Val Ala Ser Ile Ile Ser Ser Phe Leu
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Gln Cys Thr His Met Leu Pro Ala Gln Leu
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<210> 75
 <211> 1442
 <212> DNA
 <213> Homo sapiens

<400> 75
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 tatcaccaag tgggtgagact attgccaagc agtgagacta ttgccaagtg gtgagaccat 360
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 cc 1442

<210> 76
 <211> 280
 <212> PRT
 <213> Homo sapiens

<400> 76
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 Ala Arg Leu Ser Val Arg Met Ser Ser Thr Gly Ile Asp Arg Lys Gly
 20 25 30
 Val Leu Ala Asn Arg Val Ala Val Val Thr Gly Ser Thr Ser Gly Ile
 35 40 45
 Gly Phe Ala Ile Ala Arg Arg Leu Ala Arg Asp Gly Ala His Val Val
 50 55 60

Ile	Ser	Ser	Arg	Lys	Gln	Gln	Asn	Val	Asp	Arg	Ala	Met	Ala	Lys	Leu
65					70					75					80
Gln	Gly	Glu	Gly	Leu	Ser	Val	Ala	Gly	Ile	Val	Cys	His	Val	Gly	Lys
				85					90					95	
Ala	Glu	Asp	Arg	Glu	Gln	Leu	Val	Ala	Lys	Ala	Leu	Glu	His	Cys	Gly
			100					105					110		
Gly	Val	Asp	Phe	Leu	Val	Cys	Ser	Ala	Gly	Val	Asn	Pro	Leu	Val	Gly
		115					120					125			
Ser	Thr	Leu	Gly	Thr	Ser	Glu	Gln	Ile	Trp	Asp	Lys	Ile	Leu	Ser	Val
	130					135					140				
Asn	Val	Lys	Ser	Pro	Ala	Leu	Leu	Leu	Ser	Gln	Leu	Leu	Pro	Tyr	Met
145					150					155					160
Glu	Asn	Arg	Arg	Gly	Ala	Val	Ile	Leu	Val	Ser	Ser	Ile	Ala	Ala	Tyr
				165					170					175	
Asn	Pro	Val	Val	Ala	Leu	Gly	Val	Tyr	Asn	Val	Ser	Lys	Thr	Ala	Leu
			180					185					190		
Leu	Gly	Leu	Thr	Arg	Thr	Leu	Ala	Leu	Glu	Leu	Ala	Pro	Lys	Asp	Ile
	195						200					205			
Arg	Val	Asn	Cys	Val	Val	Pro	Gly	Ile	Ile	Lys	Thr	Asp	Phe	Ser	Lys
	210					215					220				
Val	Phe	His	Gly	Asn	Glu	Ser	Leu	Trp	Lys	Asn	Phe	Lys	Glu	His	His
225					230					235					240
Gln	Leu	Gln	Arg	Ile	Gly	Glu	Ser	Glu	Asp	Cys	Ala	Gly	Ile	Val	Ser
				245					250					255	
Phe	Leu	Cys	Ser	Pro	Asp	Ala	Ser	Tyr	Val	Asn	Gly	Glu	Asn	Ile	Ala
			260					265					270		
Val	Ala	Gly	Tyr	Ser	Thr	Arg	Leu								
		275					280								

<210> 77
 <211> 1743
 <212> DNA
 <213> Homo sapiens

<400> 77
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 tacatacagg attgtgaatt atacaccaga ttgccaaga gatgctgttg attctgccat 420
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ctt
1743

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<210> 78
 <211> 475
 <212> PRT
 <213> Homo sapiens

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<400> 78
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Tyr Pro Leu Ser Gly Ala Ala Lys Glu Glu Asp Ser Asn Lys Asp Leu
          20             25             30

Ala Gln Gln Tyr Leu Glu Lys Tyr Tyr Asn Leu Glu Lys Asp Val Lys
  35             40             45

Gln Phe Arg Arg Lys Asp Ser Asn Leu Ile Val Lys Lys Ile Gln Gly
  50             55             60

Met Gln Lys Phe Leu Gly Leu Glu Val Thr Gly Lys Leu Asp Thr Asp
  65             70             75             80

Thr Leu Glu Val Met Arg Lys Pro Arg Cys Gly Val Pro Asp Val Gly
          85             90             95

His Phe Ser Ser Phe Pro Gly Met Pro Lys Trp Arg Lys Thr His Leu
          100            105            110

Thr Tyr Arg Ile Val Asn Tyr Thr Pro Asp Leu Pro Arg Asp Ala Val
  115            120            125

Asp Ser Ala Ile Glu Lys Ala Leu Lys Val Trp Glu Glu Val Thr Pro
  130            135            140

Leu Thr Phe Ser Arg Leu Tyr Glu Gly Glu Ala Asp Ile Met Ile Ser
  145            150            155            160

Phe Ala Val Lys Glu His Gly Asp Phe Tyr Ser Phe Asp Gly Pro Gly
          165            170            175

His Ser Leu Ala His Ala Tyr Pro Pro Gly Pro Gly Leu Tyr Gly Asp
          180            185            190

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Ile	His	Phe	Asp	Asp	Asp	Glu	Lys	Trp	Thr	Glu	Asp	Ala	Ser	Gly	Thr	195	200	205	
Asn	Leu	Phe	Leu	Val	Ala	Ala	His	Glu	Leu	Gly	His	Ser	Leu	Gly	Leu	210	215	220	
Phe	His	Ser	Ala	Asn	Thr	Glu	Ala	Leu	Met	Tyr	Pro	Leu	Tyr	Asn	Ser	225	230	235	240
Phe	Thr	Glu	Leu	Ala	Gln	Phe	Arg	Leu	Ser	Gln	Asp	Asp	Val	Asn	Gly	245	250	255	
Ile	Gln	Ser	Leu	Tyr	Gly	Pro	Pro	Pro	Ala	Ser	Thr	Glu	Glu	Pro	Leu	260	265	270	
Val	Pro	Thr	Lys	Ser	Val	Pro	Ser	Gly	Ser	Glu	Met	Pro	Ala	Lys	Cys	275	280	285	
Asp	Pro	Ala	Leu	Ser	Phe	Asp	Ala	Ile	Ser	Thr	Leu	Arg	Gly	Glu	Tyr	290	295	300	
Leu	Phe	Phe	Lys	Asp	Arg	Tyr	Phe	Trp	Arg	Arg	Ser	His	Trp	Asn	Pro	305	310	315	320
Glu	Pro	Glu	Phe	His	Leu	Ile	Ser	Ala	Phe	Trp	Pro	Ser	Leu	Pro	Ser	325	330	335	
Tyr	Leu	Asp	Ala	Ala	Tyr	Glu	Val	Asn	Ser	Arg	Asp	Thr	Val	Phe	Ile	340	345	350	
Phe	Lys	Gly	Asn	Glu	Phe	Trp	Ala	Ile	Arg	Gly	Asn	Glu	Val	Gln	Ala	355	360	365	
Gly	Tyr	Pro	Arg	Gly	Ile	His	Thr	Leu	Gly	Phe	Pro	Pro	Thr	Ile	Arg	370	375	380	
Lys	Ile	Asp	Ala	Ala	Val	Ser	Asp	Lys	Glu	Lys	Lys	Lys	Thr	Tyr	Phe	385	390	395	400
Phe	Ala	Ala	Asp	Lys	Tyr	Trp	Arg	Phe	Asp	Glu	Asn	Ser	Gln	Ser	Met	405	410	415	
Glu	Gln	Gly	Phe	Pro	Arg	Leu	Ile	Ala	Asp	Asp	Phe	Pro	Gly	Val	Glu	420	425	430	
Pro	Lys	Val	Asp	Ala	Val	Leu	Gln	Ala	Phe	Gly	Phe	Phe	Tyr	Phe	Phe	435	440	445	
Ser	Gly	Ser	Ser	Gln	Phe	Glu	Phe	Asp	Pro	Asn	Ala	Arg	Met	Val	Thr	450	455	460	
His	Ile	Leu	Lys	Ser	Asn	Ser	Trp	Leu	His	Cys	465	470	475						

<210> 79

<211> 3198

<212> DNA

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 Pro Gly His Asn Gly Glu Ala Gly Pro Arg Gly Ala Pro Gly Ile Pro
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 Gly Thr Arg Gly Pro Ile Gly Pro Pro Gly Ile Pro Gly Phe Pro Gly
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 Ser Lys Gly Asp Pro Gly Ser Pro Gly Pro Pro Gly Pro Ala Gly Ile
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 Ala Thr Lys Gly Leu Asn Gly Pro Thr Gly Pro Pro Gly Pro Pro Gly
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 Ile Pro Gly Ile Tyr Tyr Phe Ser Tyr His Val His Val Lys Gly Thr
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1 Val Ala Pro Met
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ens

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Lys Ser Pro Pro Tyr Ile Phe Ser Pro Ile Pro Phe Leu Gly His Ala
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Ile Ala Phe Gly Lys Ser Pro Ile Glu Phe Leu Glu Asn Ala Tyr Glu
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Lys Tyr Gly Pro Val Phe Ser Phe Thr Met Val Gly Lys Thr Phe Thr
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Tyr Leu Leu Gly Ser Asp Ala Ala Ala Leu Leu Phe Asn Ser Lys Asn
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Glu Asp Leu Asn Ala Glu Asp Val Tyr Ser Arg Leu Thr Thr Pro Val
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Phe Gly Lys Gly Val Ala Tyr Asp Val Pro Asn Pro Val Phe Leu Glu
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Gln Lys Lys Met Leu Lys Ser Gly Leu Asn Ile Ala His Phe Lys Gln
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His Val Ser Ile Ile Glu Lys Glu Thr Lys Glu Tyr Phe Glu Ser Trp
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Gly Glu Ser Gly Glu Lys Asn Val Phe Glu Ala Leu Ser Glu Leu Ile
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Ile Leu Thr Ala Ser His Cys Leu His Gly Lys Glu Ile Arg Ser Gln
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 <212> DNA
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35 40 45
Phe Asp Ala Pro Pro Glu Ala Val Ala Ala Lys Leu Gly Val Lys Arg
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acatatttga ctctttcaaa aaaaaaaaaa aaaaaaaaaa 1780

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<210> 86
<211> 417
<212> PRT
<213> Homo sapiens

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<400> 86
Met Arg Phe Ala Trp Thr Val Leu Leu Leu Gly Pro Leu Gln Leu Cys
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Ala Leu Val His Cys Ala Pro Pro Ala Ala Gly Gln Gln Gln Pro Pro
      20             25             30

Arg Glu Pro Pro Ala Ala Pro Gly Ala Trp Arg Gln Gln Ile Gln Trp
      35             40             45

Glu Asn Asn Gly Gln Val Phe Ser Leu Leu Ser Leu Gly Ser Gln Tyr
      50             55             60

Gln Pro Gln Arg Arg Arg Asp Pro Gly Ala Ala Val Pro Gly Ala Ala
      65             70             75             80

Asn Ala Ser Ala Gln Gln Pro Arg Thr Pro Ile Leu Leu Ile Arg Asp
      85             90             95

Asn Arg Thr Ala Ala Gly Arg Thr Arg Thr Ala Gly Ser Ser Gly Val
      100            105            110

Thr Ala Gly Arg Pro Arg Pro Thr Ala Arg His Trp Phe Gln Ala Gly
      115            120            125

Tyr Ser Thr Ser Arg Ala Arg Glu Ala Gly Pro Ser Arg Ala Glu Asn
      130            135            140

Gln Thr Ala Pro Gly Glu Val Pro Ala Leu Ser Asn Leu Arg Pro Pro
      145            150            155            160

Ser Arg Val Asp Gly Met Val Gly Asp Asp Pro Tyr Asn Pro Tyr Lys
      165            170            175

Tyr Ser Asp Asp Asn Pro Tyr Tyr Asn Tyr Tyr Asp Thr Tyr Glu Arg
      180            185            190

Pro Arg Pro Gly Gly Arg Tyr Arg Pro Gly Tyr Gly Thr Gly Tyr Phe
      195            200            205

Gln Tyr Gly Leu Pro Asp Leu Val Ala Asp Pro Tyr Tyr Ile Gln Ala
      210            215            220

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Ser Thr Tyr Val Gln Lys Met Ser Met Tyr Asn Leu Arg Cys Ala Ala
 225 230 235 240
 Glu Glu Asn Cys Leu Ala Ser Thr Ala Tyr Arg Ala Asp Val Arg Asp
 245 250 255
 Tyr Asp His Arg Val Leu Leu Arg Phe Pro Gln Arg Val Lys Asn Gln
 260 265 270
 Gly Thr Ser Asp Phe Leu Pro Ser Arg Pro Arg Tyr Ser Trp Glu Trp
 275 280 285
 His Ser Cys His Gln His Tyr His Ser Met Asp Glu Phe Ser His Leu
 290 295 300
 Tyr Leu Leu Asp Ala Asn Thr Gln Arg Arg Trp Ala Glu Gly His Lys
 305 310 315 320
 Ala Ser Phe Cys Leu Glu Asp Thr Ser Cys Asp Tyr Gly Tyr His Arg
 325 330 335
 Arg Phe Ala Cys Thr Ala His Thr Gln Gly Leu Ser Pro Gly Cys Tyr
 340 345 350
 Asp Thr Tyr Gly Ala Asp Ile Asp Cys Gln Trp Ile Asp Ile Thr Asp
 355 360 365
 Val Lys Pro Gly Asn Tyr Ile Leu Lys Val Ser Val Asn Pro Ser Tyr
 370 375 380
 Leu Val Pro Glu Ser Asp Tyr Thr Asn Asn Val Val Arg Cys Asp Ile
 385 390 395 400
 Arg Tyr Thr Gly His His Ala Tyr Ala Ser Gly Cys Thr Ile Ser Pro
 405 410 415

Tyr

<210> 87
 <211> 1216
 <212> DNA
 <213> Homo sapiens

<400> 87
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 aacaagtcaa ttgtgtgtgt ggaccctcaa gctgaatgga tacaaagaat gatggaagta 360
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 tgctgatatt tccactaaga acacctgcat tcttccctta tccctgctct ggatttttagt 480
 tttgtgctta gttaaactct ttccaggagg aaagaacttc cccatacaaa taaggcatga 540
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 tgtttaaaat ttcttagaaa acaatggaat gagaatttaa gcctcaaatt tgaacatgtg 780
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<210> 88
 <211> 109
 <212> PRT
 <213> Homo sapiens

```

<400> 88
Met Lys Phe Ile Ser Thr Ser Leu Leu Leu Met Leu Leu Val Ser Ser
  1             5             10             15

Leu Ser Pro Val Gln Gly Val Leu Glu Val Tyr Tyr Thr Ser Leu Arg
          20             25             30

Cys Arg Cys Val Gln Glu Ser Ser Val Phe Ile Pro Arg Arg Phe Ile
          35             40             45

Asp Arg Ile Gln Ile Leu Pro Arg Gly Asn Gly Cys Pro Arg Lys Glu
          50             55             60

Ile Ile Val Trp Lys Lys Asn Lys Ser Ile Val Cys Val Asp Pro Gln
          65             70             75             80

Ala Glu Trp Ile Gln Arg Met Met Glu Val Leu Arg Lys Arg Ser Ser
          85             90             95

Ser Thr Leu Pro Val Pro Val Phe Lys Arg Lys Ile Pro
          100             105

```

<210> 89
 <211> 576
 <212> DNA
 <213> Homo sapiens

```

<400> 89
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caggacaaca ctcggaagat cataataaag aattttgaca ttcccaagtc agtacgtcca 180
aatgacgaag tcaactgcagt gcttgcagtt caaacagaat tgaaagaatg catggtgggt 240
aaaacttacc tcattagcag catccctcta caaggtgcat ttaactataa gtatactgcc 300
tgcttatgtg acgacaatcc aaaaaccttc tactgggact ttacaccaa cagaactgtg 360
caaattgcag ccgtcgttga tgttattcgg gaattaggca tctgccctga tgatgctgct 420
gtaatcccca tcaaaaacaa ccggttttat actattgaaa tcctaaaggt agaataatgg 480
aagccctgtc tgtttgccac acccaggtga tttcctctaa agaaacttgg ctggaatttc 540
tgctgtggtc tataaaataa acttcttaac atgctt 576

```

<210> 90
 <211> 145
 <212> PRT
 <213> Homo sapiens

<400> 90
Met Arg Leu Leu Gln Leu Leu Phe Arg Ala Ser Pro Ala Thr Leu Leu
1 5 10 15
Leu Val Leu Cys Leu Gln Leu Gly Ala Asn Lys Ala Gln Asp Asn Thr
20 25 30
Arg Lys Ile Ile Ile Lys Asn Phe Asp Ile Pro Lys Ser Val Arg Pro
35 40 45
Asn Asp Glu Val Thr Ala Val Leu Ala Val Gln Thr Glu Leu Lys Glu
50 55 60
Cys Met Val Val Lys Thr Tyr Leu Ile Ser Ser Ile Pro Leu Gln Gly
65 70 75 80
Ala Phe Asn Tyr Lys Tyr Thr Ala Cys Leu Cys Asp Asp Asn Pro Lys
85 90 95
Thr Phe Tyr Trp Asp Phe Tyr Thr Asn Arg Thr Val Gln Ile Ala Ala
100 105 110
Val Val Asp Val Ile Arg Glu Leu Gly Ile Cys Pro Asp Asp Ala Ala
115 120 125
Val Ile Pro Ile Lys Asn Asn Arg Phe Tyr Thr Ile Glu Ile Leu Lys
130 135 140
Val
145

<210> 91
<211> 2340
<212> DNA
<213> Homo sapiens

<400> 91
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<210> 92

<211> 296

<212> PRT

<213> Homo sapiens

<400> 92

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Met Glu His Leu Lys Ala Phe Asp Asp Glu Ile Asn Ala Phe Leu Asp
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```

Asn Met Phe Gly Pro Arg Asp Ser Arg Val Arg Gly Trp Phe Thr Leu
              20              25              30

```

```

Asp Ser Tyr Leu Pro Thr Phe Phe Leu Thr Val Met Tyr Leu Leu Ser
  35              40              45

```

```

Ile Trp Leu Gly Asn Lys Tyr Met Lys Asn Arg Pro Ala Leu Ser Leu
  50              55              60

```

```

Arg Gly Ile Leu Thr Leu Tyr Asn Leu Gly Ile Thr Leu Leu Ser Ala
  65              70              75              80

```

```

Tyr Met Leu Ala Glu Leu Ile Leu Ser Thr Trp Glu Gly Gly Tyr Asn
              85              90              95

```

```

Leu Gln Cys Gln Asp Leu Thr Ser Ala Gly Glu Ala Asp Ile Arg Val
  100              105              110

```

```

Ala Lys Val Leu Trp Trp Tyr Tyr Phe Ser Lys Ser Val Glu Phe Leu
  115              120              125

```

```

Asp Thr Ile Phe Phe Val Leu Arg Lys Lys Thr Ser Gln Ile Thr Phe
  130              135              140

```

```

Leu His Val Tyr His His Ala Ser Met Phe Asn Ile Trp Trp Cys Val
  145              150              155              160

```

```

Leu Asn Trp Ile Pro Cys Gly Gln Ser Phe Phe Gly Pro Thr Leu Asn
  165              170              175

```

```

Ser Phe Val His Ile Leu Met Tyr Ser Tyr Tyr Gly Leu Ser Val Phe
  180              185              190

```

Pro Ser Met His Lys Tyr Leu Trp Trp Lys Lys Tyr Leu Thr Gln Ala
 195 200 205
 Gln Leu Val Gln Phe Val Leu Thr Ile Thr His Thr Met Ser Ala Val
 210 215 220
 Val Lys Pro Cys Gly Phe Pro Phe Gly Cys Leu Ile Phe Gln Ser Ser
 225 230 235 240
 Tyr Met Leu Thr Leu Val Ile Leu Phe Leu Asn Phe Tyr Val Gln Thr
 245 250 255
 Tyr Arg Lys Lys Pro Met Lys Lys Asp Met Gln Glu Pro Pro Ala Gly
 260 265 270
 Lys Glu Val Lys Asn Gly Phe Ser Lys Ala Tyr Phe Thr Ala Ala Asn
 275 280 285
 Gly Val Met Asn Lys Lys Ala Gln
 290 295

<210> 93
 <211> 4321
 <212> DNA
 <213> Homo sapiens

<400> 93
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4321

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<210> 94
<211> 919
<212> PRT
<213> Homo sapiens

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<400> 94
Met Glu Val Gln Leu Gly Leu Gly Arg Val Tyr Pro Arg Pro Pro Ser
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Lys Thr Tyr Arg Gly Ala Phe Gln Asn Leu Phe Gln Ser Val Arg Glu
      20                      25                      30

Val Ile Gln Asn Pro Gly Pro Arg His Pro Glu Ala Ala Ser Ala Ala
      35                      40                      45

Pro Pro Gly Ala Ser Leu Leu Leu Leu Gln Gln Gln Gln Gln Gln
      50                      55                      60

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			85						90					95		
Ala	His	Arg	Arg	Gly	Pro	Thr	Gly	Tyr	Leu	Val	Leu	Asp	Glu	Glu	Gln	
			100					105					110			
Gln	Pro	Ser	Gln	Pro	Gln	Ser	Ala	Leu	Glu	Cys	His	Pro	Glu	Arg	Gly	
		115					120					125				
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Thr	Leu	Ser	Leu	Leu	Gly	Pro	Thr	Phe	Pro	Gly	Leu	Ser	Ser	Cys	Ser	
			165						170					175		
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Lys Gln Met Leu Val Ser Glu Val Asn Leu Leu Arg Glu Leu Lys His
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Pro Asn Ile Val Arg Tyr Tyr Asp Arg Ile Ile Asp Arg Thr Asn Thr
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Thr Leu Tyr Ile Val Met Glu Tyr Cys Glu Gly Gly Asp Leu Ala Ser
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Val Ile Thr Lys Gly Thr Lys Glu Arg Gln Tyr Leu Asp Glu Glu Phe
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Val Leu Arg Val Met Thr Gln Leu Thr Leu Ala Leu Lys Glu Cys His
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<210> 106
<211> 325
<212> PRT
<213> Homo sapiens

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Arg Glu Lys Val Met Lys Gln Ser Glu Glu Asn Asn Asn Leu Gln Ser
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Gln Val Gln Lys Leu Thr Glu Glu Asn Thr Thr Leu Arg Glu Gln Val
      35             40             45

Glu Pro Thr Pro Glu Asp Glu Asp Asp Asp Ile Glu Leu Arg Gly Ala
      50             55             60

Ala Ala Ala Ala Ala Pro Pro Pro Pro Ile Glu Glu Glu Cys Pro Glu
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Asp Leu Pro Glu Lys Phe Asp Gly Asn Pro Asp Met Leu Ala Pro Phe
      85             90             95

Met Ala Gln Cys Gln Ile Phe Met Glu Lys Ser Thr Arg Asp Phe Ser
      100            105            110

Val Asp Arg Val Arg Val Cys Phe Val Thr Ser Met Met Thr Gly Arg
      115            120            125

Ala Ala Arg Trp Ala Ser Ala Lys Leu Glu Arg Ser His Tyr Leu Met
      130            135            140

His Asn Tyr Pro Ala Phe Met Met Glu Met Lys His Val Phe Glu Asp
      145            150            155            160

Pro Gln Arg Arg Glu Val Ala Lys Arg Lys Ile Arg Arg Leu Arg Gln
      165            170            175

Gly Met Gly Ser Val Ile Asp Tyr Ser Asn Ala Phe Gln Met Ile Ala
      180            185            190

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Gln Asp Leu Asp Trp Asn Glu Pro Ala Leu Ile Asp Gln Tyr His Glu
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 Gly Leu Ser Asp His Ile Gln Glu Glu Leu Ser His Leu Glu Val Ala
 210 215 220
 Lys Ser Leu Ser Ala Leu Ile Gly Gln Cys Ile His Ile Glu Arg Arg
 225 230 235 240
 Leu Ala Arg Ala Ala Ala Ala Arg Lys Pro Arg Ser Pro Pro Arg Ala
 245 250 255
 Leu Val Leu Pro His Ile Ala Ser His His Gln Val Asp Pro Thr Glu
 260 265 270
 Pro Val Gly Gly Ala Arg Met Arg Leu Thr Gln Glu Glu Lys Glu Arg
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 Arg Arg Lys Leu Asn Leu Cys Leu Tyr Cys Gly Thr Gly Gly His Tyr
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 305 310 315 320
 Ser Pro Ala Pro Leu
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<210> 107
 <211> 5000
 <212> DNA
 <213> Homo sapiens

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<210> 108
 <211> 486
 <212> PRT
 <213> Homo sapiens

<400> 108

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			20					25					30				
Gln	Ile	Asp	Val	Tyr	Glu	Ala	Arg	Glu	Asp	Thr	Arg	Val	Ala	Thr	Phe		
		35					40					45					
Thr	Arg	Gly	Arg	Ser	Ile	Asn	Leu	Ala	Leu	Ser	His	Arg	Gly	Arg	Gln		
	50					55					60						
Ala	Leu	Lys	Ala	Val	Gly	Leu	Glu	Asp	Gln	Ile	Val	Ser	Gln	Gly	Ile		
65					70					75					80		
Pro	Met	Arg	Ala	Arg	Met	Ile	His	Ser	Leu	Ser	Gly	Lys	Lys	Ser	Ala		
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Ile	Pro	Tyr	Gly	Thr	Lys	Ser	Gln	Tyr	Ile	Leu	Ser	Val	Ser	Arg	Glu		
		100					105						110				
Asn	Leu	Asn	Lys	Asp	Leu	Leu	Thr	Ala	Ala	Glu	Lys	Tyr	Pro	Asn	Val		
		115					120					125					
Lys	Met	His	Phe	Asn	His	Arg	Leu	Leu	Lys	Cys	Asn	Pro	Glu	Glu	Gly		
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Met	Ile	Thr	Val	Leu	Gly	Ser	Asp	Lys	Val	Pro	Lys	Asp	Val	Thr	Cys		
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Asp	Leu	Ile	Val	Gly	Cys	Asp	Gly	Ala	Tyr	Ser	Thr	Val	Arg	Ser	His		
			165					170						175			
Leu	Met	Lys	Lys	Pro	Arg	Phe	Asp	Tyr	Ser	Gln	Gln	Tyr	Ile	Pro	His		
		180						185					190				
Gly	Tyr	Met	Glu	Leu	Thr	Ile	Pro	Pro	Lys	Asn	Gly	Asp	Tyr	Ala	Met		
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Glu	Pro	Asn	Tyr	Leu	His	Ile	Trp	Pro	Arg	Asn	Thr	Phe	Met	Met	Ile		
	210					215					220						
Ala	Leu	Pro	Asn	Met	Asn	Lys	Ser	Phe	Thr	Cys	Thr	Leu	Phe	Met	Pro		
225					230					235					240		
Phe	Glu	Glu	Phe	Glu	Lys	Leu	Leu	Thr	Ser	Asn	Asp	Val	Val	Asp	Phe		
			245						250					255			
Phe	Gln	Lys	Tyr	Phe	Pro	Asp	Ala	Ile	Pro	Leu	Ile	Gly	Glu	Lys	Leu		
		260					265						270				
Leu	Val	Gln	Asp	Phe	Phe	Leu	Leu	Pro	Ala	Gln	Pro	Met	Ile	Ser	Val		
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Lys Cys Ser Ser Phe His Phe Lys Ser His Cys Val Leu Leu Gly Asp
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 Ala Ala His Ala Ile Val Pro Phe Phe Gly Gln Gly Met Asn Ala Gly
 305 310 315 320
 Phe Glu Asp Cys Leu Val Phe Asp Glu Leu Met Asp Lys Phe Ser Asn
 325 330 335
 Asp Leu Ser Leu Cys Leu Pro Val Phe Ser Arg Leu Arg Ile Pro Asp
 340 345 350
 Asp His Ala Ile Ser Asp Leu Ser Met Tyr Asn Tyr Ile Glu Met Arg
 355 360 365
 Ala His Val Asn Ser Ser Trp Phe Ile Phe Gln Lys Asn Met Glu Arg
 370 375 380
 Phe Leu His Ala Ile Met Pro Ser Thr Phe Ile Pro Leu Tyr Thr Met
 385 390 395 400
 Val Thr Phe Ser Arg Ile Arg Tyr His Glu Ala Val Gln Arg Trp His
 405 410 415
 Trp Gln Lys Lys Val Ile Asn Lys Gly Leu Phe Phe Leu Gly Ser Leu
 420 425 430
 Ile Ala Ile Ser Ser Thr Tyr Leu Leu Ile His Tyr Met Ser Pro Arg
 435 440 445
 Ser Phe Leu Cys Leu Arg Arg Pro Trp Asn Trp Ile Ala His Phe Arg
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 465 470 475 480
 Ser Asn Leu Ile Ser Arg
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 <211> 2148
 <212> DNA
 <213> Homo sapiens

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<210> 110
<211> 509
<212> PRT
<213> Homo sapiens

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Met Ser Val Trp Thr Ser Pro Arg Arg Leu Val Glu Leu Ala Gly Gln
  20             25             30

Ser Leu Leu Lys Asp Glu Ala Leu Ala Ile Ala Ala Leu Glu Leu Leu
  35             40             45

Pro Arg Glu Leu Phe Pro Pro Leu Phe Met Ala Ala Phe Asp Gly Arg
  50             55             60

His Ser Gln Thr Leu Lys Ala Met Val Gln Ala Trp Pro Phe Thr Cys
  65             70             75             80

Leu Pro Leu Gly Val Leu Met Lys Gly Gln His Leu His Leu Glu Thr
  85             90             95

Phe Lys Ala Val Leu Asp Gly Leu Asp Val Leu Leu Ala Gln Glu Val
 100             105             110

Arg Pro Arg Arg Trp Lys Leu Gln Val Leu Asp Leu Arg Lys Asn Ser
 115             120             125

His Gln Asp Phe Trp Thr Val Trp Ser Gly Asn Arg Ala Ser Leu Tyr
 130             135             140

Ser Phe Pro Glu Pro Glu Ala Ala Gln Pro Met Thr Lys Lys Arg Lys
 145             150             155             160

Val Asp Gly Leu Ser Thr Glu Ala Glu Gln Pro Phe Ile Pro Val Glu
 165             170             175

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Val	Leu	Val	Asp	Leu	Phe	Leu	Lys	Glu	Gly	Ala	Cys	Asp	Glu	Leu	Phe	180	185	190	
Ser	Tyr	Leu	Ile	Glu	Lys	Val	Lys	Arg	Lys	Lys	Asn	Val	Leu	Arg	Leu	195	200	205	
Cys	Cys	Lys	Lys	Leu	Lys	Ile	Phe	Ala	Met	Pro	Met	Gln	Asp	Ile	Lys	210	215	220	
Met	Ile	Leu	Lys	Met	Val	Gln	Leu	Asp	Ser	Ile	Glu	Asp	Leu	Glu	Val	225	230	235	240
Thr	Cys	Thr	Trp	Lys	Leu	Pro	Thr	Leu	Ala	Lys	Phe	Ser	Pro	Tyr	Leu	245	250	255	
Gly	Gln	Met	Ile	Asn	Leu	Arg	Arg	Leu	Leu	Leu	Ser	His	Ile	His	Ala	260	265	270	
Ser	Ser	Tyr	Ile	Ser	Pro	Glu	Lys	Glu	Glu	Gln	Tyr	Ile	Ala	Gln	Phe	275	280	285	
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Ser	Leu	Phe	Phe	Leu	Arg	Gly	Arg	Leu	Asp	Gln	Leu	Leu	Arg	His	Val	305	310	315	320
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Val	Leu	Ser	Leu	Ser	Gly	Val	Met	Leu	Thr	Asp	Val	Ser	Pro	Glu	Pro	355	360	365	
Leu	Gln	Ala	Leu	Leu	Glu	Arg	Ala	Ser	Ala	Thr	Leu	Gln	Asp	Leu	Val	370	375	380	
Phe	Asp	Glu	Cys	Gly	Ile	Thr	Asp	Asp	Gln	Leu	Leu	Ala	Leu	Leu	Pro	385	390	395	400
Ser	Leu	Ser	His	Cys	Ser	Gln	Leu	Thr	Thr	Leu	Ser	Phe	Tyr	Gly	Asn	405	410	415	
Ser	Ile	Ser	Ile	Ser	Ala	Leu	Gln	Ser	Leu	Leu	Gln	His	Leu	Ile	Gly	420	425	430	
Leu	Ser	Asn	Leu	Thr	His	Val	Leu	Tyr	Pro	Val	Pro	Leu	Glu	Ser	Tyr	435	440	445	
Glu	Asp	Ile	His	Gly	Thr	Leu	His	Leu	Glu	Arg	Leu	Ala	Tyr	Leu	His	450	455	460	
Ala	Arg	Leu	Arg	Glu	Leu	Leu	Cys	Glu	Leu	Gly	Arg	Pro	Ser	Met	Val	465	470	475	480
Trp	Leu	Ser	Ala	Asn	Pro	Cys	Pro	His	Cys	Gly	Asp	Arg	Thr	Phe	Tyr	485	490	495	

Asp Pro Glu Pro Ile Leu Cys Pro Cys Phe Met Pro Asn
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<210> 111
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<213> Homo sapiens

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<211> 814

<212> PRT

<213> Homo sapiens

<400> 112

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Ala	Leu	Leu	Asp	Gly	Met	Gly	Ser	Cys	Leu	Phe	Glu	Arg	Leu	Pro	Ser	405	410	415
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Gly	Ser	Ile	Arg	Asp	Leu	Leu	Trp	Glu	Thr	Ile	Asp	Val	Asn	Gly	Thr	595	600	605

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 <213> Homo sapiens

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<211> 125
<212> PRT
<213> Homo sapiens

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Cys Ile Ser Thr Asn Gln Gly Thr Ile His Leu Gln Ser Leu Lys Asp
      35             40             45

Leu Lys Gln Phe Ala Pro Ser Pro Ser Cys Glu Lys Ile Glu Ile Ile
      50             55             60

Ala Thr Leu Lys Asn Gly Val Gln Thr Cys Leu Asn Pro Asp Ser Ala
      65             70             75             80

Asp Val Lys Glu Leu Ile Lys Lys Trp Glu Lys Gln Val Ser Gln Lys
      85             90             95

Lys Lys Gln Lys Asn Gly Lys Lys His Gln Lys Lys Lys Val Leu Lys
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Val Arg Lys Ser Gln Arg Ser Arg Gln Lys Lys Thr Thr
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<210> 115
 <211> 1695
 <212> DNA
 <213> Homo sapiens

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 <213> Homo sapiens

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 35 40 45
 Lys Leu Thr Ser Pro Pro Glu Asp Tyr Pro Glu Pro Glu Glu Val Pro
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 Pro Glu Val Ile Ser Ile Tyr Asn Ser Thr Arg Asp Leu Leu Gln Glu
 65 70 75 80
 Lys Ala Ser Arg Arg Ala Ala Ala Cys Glu Arg Glu Arg Ser Asp Glu
 85 90 95

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Pro	Ser	Glu	Asn	Ala	Ile	Pro	Pro	Thr	Phe	Tyr	Arg	Pro	Tyr	Phe	Arg		
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Ile	Val	Arg	Phe	Asp	Val	Ser	Ala	Met	Glu	Lys	Asn	Ala	Ser	Asn	Leu		
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Val	Lys	Ala	Glu	Phe	Arg	Val	Phe	Arg	Leu	Gln	Asn	Pro	Lys	Ala	Arg		
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Val	Pro	Glu	Gln	Arg	Ile	Glu	Leu	Tyr	Gln	Ile	Leu	Lys	Ser	Lys	Asp		
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Leu	Thr	Ser	Pro	Thr	Gln	Arg	Tyr	Ile	Asp	Ser	Lys	Val	Val	Lys	Thr		
			180					185						190			
Arg	Ala	Glu	Gly	Glu	Trp	Leu	Ser	Phe	Asp	Val	Thr	Asp	Ala	Val	His		
		195					200					205					
Glu	Trp	Leu	His	His	Lys	Asp	Arg	Asn	Leu	Gly	Phe	Lys	Ile	Ser	Leu		
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Ser	Thr	Tyr	Thr	Ser	Gly	Asp	Gln	Lys	Thr	Ile	Lys	Ser	Thr	Arg	Lys		
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Lys	Asn	Ser	Gly	Lys	Thr	Pro	His	Leu	Leu	Leu	Met	Leu	Leu	Pro	Ser		
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Tyr	Arg	Leu	Glu	Ser	Gln	Gln	Thr	Asn	Arg	Arg	Lys	Lys	Arg	Ala	Leu		
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Asp	Ala	Ala	Tyr	Cys	Phe	Arg	Asn	Val	Gln	Asp	Asn	Cys	Cys	Leu	Arg		
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Pro	Leu	Tyr	Ile	Asp	Phe	Lys	Arg	Asp	Leu	Gly	Trp	Lys	Trp	Ile	His		
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Glu	Pro	Lys	Gly	Tyr	Asn	Ala	Asn	Phe	Cys	Ala	Gly	Ala	Cys	Pro	Tyr		
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Leu	Trp	Ser	Ser	Asp	Thr	Gln	His	Ser	Arg	Val	Leu	Ser	Leu	Tyr	Asn		
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Thr	Ile	Asn	Pro	Glu	Ala	Ser	Ala	Ser	Pro	Cys	Cys	Val	Ser	Gln	Asp		
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Leu	Glu	Pro	Leu	Thr	Ile	Leu	Tyr	Tyr	Ile	Gly	Lys	Thr	Pro	Lys	Ile		
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<210> 117
 <211> 2439
 <212> DNA
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Thr	Val	Met	Glu	Cys	Asp	Ala	Cys	Gly	Met	Gln	Gln	Ser	Val	Arg	Thr	65	70	75
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Pro	Thr	His	Gln	Gly	Val	Gly	Leu	Ala	Phe	Ala	Lys	Ala	Asn	Lys	Gln	165	170	175
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Ala	Gln	Arg	Phe	Cys	Pro	Asp	Gly	Ser	Pro	Ser	Glu	Cys	His	Glu	His	225	230	235
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Lys	Asp	Asn	Cys	Val	Thr	Val	Pro	Asn	Ser	Gly	Gln	Glu	Asp	Val	Asp	290	295	300
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Asn Val Gly Trp Lys Asp Lys Lys Ser Tyr Arg Trp Phe Leu Gln His
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 Arg Pro Gln Val Gly Tyr Ile Arg Val Arg Phe Tyr Glu Gly Pro Glu
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 Arg Leu Gly Val Phe Cys Phe Ser Gln Glu Asn Ile Ile Trp Ala Asn
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 <213> Homo sapiens

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<212> PRT
<213> Homo sapiens

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Ser Asp Lys Leu Ser Leu Pro Gly Phe Glu Asn Leu Thr Ala Gly Tyr
      35             40            45
Asn Lys Phe Leu Arg Pro Asn Phe Gly Gly Glu Pro Val Gln Ile Ala
      50             55            60
Leu Thr Leu Asp Ile Ala Ser Ile Ser Ser Ile Ser Glu Ser Asn Met
      65             70            75            80
Asp Tyr Thr Ala Thr Ile Tyr Leu Arg Gln Arg Trp Met Asp Gln Arg
          85             90            95
Leu Val Phe Glu Gly Asn Lys Ser Phe Thr Leu Asp Ala Arg Leu Val
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Glu Phe Leu Trp Val Pro Asp Thr Tyr Ile Val Glu Ser Lys Lys Ser
          115            120           125
Phe Leu His Glu Val Thr Val Gly Asn Arg Leu Ile Arg Leu Phe Ser
          130            135           140
Asn Gly Thr Val Leu Tyr Ala Leu Arg Ile Thr Thr Thr Val Ala Cys
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Asn Met Asp Leu Ser Lys Tyr Pro Met Asp Thr Gln Thr Cys Lys Leu
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 210 215 220
 Glu Thr Gly Asn Tyr Thr Arg Leu Val Leu Gln Phe Glu Leu Arg Arg
 225 230 235 240
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 260 265 270
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 305 310 315 320
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 Met Lys Thr Ser Asp Lys Phe Lys Phe Val Phe Arg Glu Lys Met Gly
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<211> 1806

<212> PRT

<213> Homo sapiens

<220>

<221> MOD_RES

<222> (1)..(1806)

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 Glu Val Lys Asp Tyr Ala Phe Pro Tyr Pro Gln Asp Cys Asn Pro Arg
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<210> 126
 <211> 829
 <212> PRT
 <213> Homo sapiens

<400> 126

Met	Gly	Leu	Pro	Arg	Gly	Pro	Leu	Ala	Ser	Leu	Leu	Leu	Leu	Gln	Val	1	5	10	15
Cys	Trp	Leu	Gln	Cys	Ala	Ala	Ser	Glu	Pro	Cys	Arg	Ala	Val	Phe	Arg	20	25	30	
Glu	Ala	Glu	Val	Thr	Leu	Glu	Ala	Gly	Gly	Ala	Glu	Gln	Glu	Pro	Gly	35	40	45	
Gln	Ala	Leu	Gly	Lys	Val	Phe	Met	Gly	Cys	Pro	Gly	Gln	Glu	Pro	Ala	50	55	60	
Leu	Phe	Ser	Thr	Asp	Asn	Asp	Asp	Phe	Thr	Val	Arg	Asn	Gly	Glu	Thr	65	70	75	80
Val	Gln	Glu	Arg	Arg	Ser	Leu	Lys	Glu	Arg	Asn	Pro	Leu	Lys	Ile	Phe	85	90	95	
Pro	Ser	Lys	Arg	Ile	Leu	Arg	Arg	His	Lys	Arg	Asp	Trp	Val	Val	Ala	100	105	110	
Pro	Ile	Ser	Val	Pro	Glu	Asn	Gly	Lys	Gly	Pro	Phe	Pro	Gln	Arg	Leu	115	120	125	
Asn	Gln	Leu	Lys	Ser	Asn	Lys	Asp	Arg	Asp	Thr	Lys	Ile	Phe	Tyr	Ser	130	135	140	
Ile	Thr	Gly	Pro	Gly	Ala	Asp	Ser	Pro	Pro	Glu	Gly	Val	Phe	Ala	Val	145	150	155	160
Glu	Lys	Glu	Thr	Gly	Trp	Leu	Leu	Leu	Asn	Lys	Pro	Leu	Asp	Arg	Glu	165	170	175	
Glu	Ile	Ala	Lys	Tyr	Glu	Leu	Phe	Gly	His	Ala	Val	Ser	Glu	Asn	Gly	180	185	190	
Ala	Ser	Val	Glu	Asp	Pro	Met	Asn	Ile	Ser	Ile	Ile	Val	Thr	Asp	Gln	195	200	205	
Asn	Asp	His	Lys	Pro	Lys	Phe	Thr	Gln	Asp	Thr	Phe	Arg	Gly	Ser	Val	210	215	220	
Leu	Glu	Gly	Val	Leu	Pro	Gly	Thr	Ser	Val	Met	Gln	Val	Thr	Ala	Thr	225	230	235	240
Asp	Glu	Asp	Asp	Ala	Ile	Tyr	Thr	Tyr	Asn	Gly	Val	Val	Ala	Tyr	Ser	245	250	255	
Ile	His	Ser	Gln	Glu	Pro	Lys	Asp	Pro	His	Asp	Leu	Met	Phe	Thr	Ile	260	265	270	
His	Arg	Ser	Thr	Gly	Thr	Ile	Ser	Val	Ile	Ser	Ser	Gly	Leu	Asp	Arg	275	280	285	

Glu	Lys	Val	Pro	Glu	Tyr	Thr	Leu	Thr	Ile	Gln	Ala	Thr	Asp	Met	Asp	
290						295					300					
Gly	Asp	Gly	Ser	Thr	Thr	Thr	Ala	Val	Ala	Val	Val	Glu	Ile	Leu	Asp	
305					310					315					320	
Ala	Asn	Asp	Asn	Ala	Pro	Met	Phe	Asp	Pro	Gln	Lys	Tyr	Glu	Ala	His	
				325					330					335		
Val	Pro	Glu	Asn	Ala	Val	Gly	His	Glu	Val	Gln	Arg	Leu	Thr	Val	Thr	
			340					345					350			
Asp	Leu	Asp	Ala	Pro	Asn	Ser	Pro	Ala	Trp	Arg	Ala	Thr	Tyr	Leu	Ile	
	355						360					365				
Met	Gly	Gly	Asp	Asp	Gly	Asp	His	Phe	Thr	Ile	Thr	Thr	His	Pro	Glu	
370						375					380					
Ser	Asn	Gln	Gly	Ile	Leu	Thr	Thr	Arg	Lys	Gly	Leu	Asp	Phe	Glu	Ala	
385					390					395					400	
Lys	Asn	Gln	His	Thr	Leu	Tyr	Val	Glu	Val	Thr	Asn	Glu	Ala	Pro	Phe	
				405					410					415		
Val	Leu	Lys	Leu	Pro	Thr	Ser	Thr	Ala	Thr	Ile	Val	Val	His	Val	Glu	
			420					425					430			
Asp	Val	Asn	Glu	Ala	Pro	Val	Phe	Val	Pro	Pro	Ser	Lys	Val	Val	Glu	
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Val	Gln	Glu	Gly	Ile	Pro	Thr	Gly	Glu	Pro	Val	Cys	Val	Tyr	Thr	Ala	
450						455					460					
Glu	Asp	Pro	Asp	Lys	Glu	Asn	Gln	Lys	Ile	Ser	Tyr	Arg	Ile	Leu	Arg	
465					470					475					480	
Asp	Pro	Ala	Gly	Trp	Leu	Ala	Met	Asp	Pro	Asp	Ser	Gly	Gln	Val	Thr	
				485					490					495		
Ala	Val	Gly	Thr	Leu	Asp	Arg	Glu	Asp	Glu	Gln	Phe	Val	Arg	Asn	Asn	
			500					505					510			
Ile	Tyr	Glu	Val	Met	Val	Leu	Ala	Met	Asp	Asn	Gly	Ser	Pro	Pro	Thr	
	515						520					525				
Thr	Gly	Thr	Gly	Thr	Leu	Leu	Leu	Thr	Leu	Ile	Asp	Val	Asn	Asp	His	
530					535						540					
Gly	Pro	Val	Pro	Glu	Pro	Arg	Gln	Ile	Thr	Ile	Cys	Asn	Gln	Ser	Pro	
545					550					555					560	
Val	Arg	His	Val	Leu	Asn	Ile	Thr	Asp	Lys	Asp	Leu	Ser	Pro	His	Thr	
				565					570					575		
Ser	Pro	Phe	Gln	Ala	Gln	Leu	Thr	Asp	Asp	Ser	Asp	Ile	Tyr	Trp	Thr	
			580					585					590			
Ala	Glu	Val	Asn	Glu	Glu	Gly	Asp	Thr	Val	Val	Leu	Ser	Leu	Lys	Lys	
	595						600					605				

Phe Leu Lys Gln Asp Thr Tyr Asp Val His Leu Ser Leu Ser Asp His
610 615 620
Gly Asn Lys Glu Gln Leu Thr Val Ile Arg Ala Thr Val Cys Asp Cys
625 630 635 640
His Gly His Val Glu Thr Cys Pro Gly Pro Trp Lys Gly Gly Phe Ile
645 650 655
Leu Pro Val Leu Gly Ala Val Leu Ala Leu Leu Phe Leu Leu Leu Val
660 665 670
Leu Leu Leu Leu Val Arg Lys Lys Arg Lys Ile Lys Glu Pro Leu Leu
675 680 685
Leu Pro Glu Asp Asp Thr Arg Asp Asn Val Phe Tyr Tyr Gly Glu Glu
690 695 700
Gly Gly Gly Glu Glu Asp Gln Asp Tyr Asp Ile Thr Gln Leu His Arg
705 710 715 720
Gly Leu Glu Ala Arg Pro Glu Val Val Leu Arg Asn Asp Val Ala Pro
725 730 735
Thr Ile Ile Pro Thr Pro Met Tyr Arg Pro Arg Pro Ala Asn Pro Asp
740 745 750
Glu Ile Gly Asn Phe Ile Ile Glu Asn Leu Lys Ala Ala Asn Thr Asp
755 760 765
Pro Thr Ala Pro Pro Tyr Asp Thr Leu Leu Val Phe Asp Tyr Glu Gly
770 775 780
Ser Gly Ser Asp Ala Ala Ser Leu Ser Ser Leu Thr Ser Ser Ala Ser
785 790 795 800
Asp Gln Asp Gln Asp Tyr Asp Tyr Leu Asn Glu Trp Gly Ser Arg Phe
805 810 815
Lys Lys Leu Ala Asp Met Tyr Gly Gly Gly Glu Asp Asp
820 825

<210> 127
<211> 1189
<212> DNA
<213> Homo sapiens

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tgcgccccc ggggctgggt gaggcatgca gctgcgcccc ggcgcaccct cagcagcaca 180
tctgccactc ggcacttggtg attcggggcca aaatctccag tgagaaggta gttccggcca 240
gtgcagacct tgctgacact gaaaaaatgc tccggtatga aatcaaacag ataaagatgt 300
tcaaagggtt tgagaaagtc aaggatgttc agtatatcta tacgcctttt gactcttccc 360
tctgtggtgt gaaactagaa gccaacagcc agaagcagta tctcttgact ggtcagggtcc 420
tcagtgatgg aaaagtcttc atccatctgt gcaactacat cgagccctgg gaggacctgt 480
ccttggtgca gagggaaagt ctgaatcatc actaccatct gaactgtggc tgccaaatca 540
ccacctgcta cacagtaccc tgtaccatct cggcccctaa cgagtgcctc tggacagact 600
ggctgttgga acgaaagctc tatggttacc aggtcagca ttatgtctgt atgaagcatg 660
ttgacggcac ctgcagctgg taccggggcc acctgcctct caggaaggag tttgttgaca 720


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tcgttcagcc ctagtaggga ccagtgacca tcacatccct tcaagagtcc tgaagatcaa 780
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tctgccctgc cctcagcctg ttgccctgcc tcccaaacc ctaggtcta gccttgtagc 960
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atgtcataca catgagatgg tatatccttg cgatgtacag aatcagaagg tggtttgaca 1140
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<210> 128
<211> 224
<212> PRT
<213> Homo sapiens

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<400> 128
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Leu Leu Ala Leu Leu Arg Pro Pro Gly Leu Gly Glu Ala Cys Ser Cys
      20              25              30

Ala Pro Ala His Pro Gln Gln His Ile Cys His Ser Ala Leu Val Ile
      35              40              45

Arg Ala Lys Ile Ser Ser Glu Lys Val Val Pro Ala Ser Ala Asp Pro
      50              55              60

Ala Asp Thr Glu Lys Met Leu Arg Tyr Glu Ile Lys Gln Ile Lys Met
      65              70              75              80

Phe Lys Gly Phe Glu Lys Val Lys Asp Val Gln Tyr Ile Tyr Thr Pro
      85              90              95

Phe Asp Ser Ser Leu Cys Gly Val Lys Leu Glu Ala Asn Ser Gln Lys
      100              105              110

Gln Tyr Leu Leu Thr Gly Gln Val Leu Ser Asp Gly Lys Val Phe Ile
      115              120              125

His Leu Cys Asn Tyr Ile Glu Pro Trp Glu Asp Leu Ser Leu Val Gln
      130              135              140

Arg Glu Ser Leu Asn His His Tyr His Leu Asn Cys Gly Cys Gln Ile
      145              150              155              160

Thr Thr Cys Tyr Thr Val Pro Cys Thr Ile Ser Ala Pro Asn Glu Cys
      165              170              175

Leu Trp Thr Asp Trp Leu Leu Glu Arg Lys Leu Tyr Gly Tyr Gln Ala
      180              185              190

Gln His Tyr Val Cys Met Lys His Val Asp Gly Thr Cys Ser Trp Tyr
      195              200              205

Arg Gly His Leu Pro Leu Arg Lys Glu Phe Val Asp Ile Val Gln Pro
      210              215              220

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<210> 129
 <211> 1909
 <212> DNA
 <213> Homo sapiens

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 attgccagtt ttcagcctcc tcatgcctcc gtctccttta gacgacaggg tagtagtggc 180
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 caaggctgcg aatctgacgt atatgccttc atccagcggc tctgcccgtc cgctgaattg 360
 tggatgcagc agtgccagct gctgcactgt ggcaacctac gacaaggaca atcaggccca 420
 aaccaagcc attgccgctg gcaccaccac cactgccatc ggaacctcta ccacctgccc 480
 tgctaaccag atggtcaaca ataatgagaa tacaggctct ctaagtccat caagtgggggt 540
 gggcagccct gtgtcagggg cccccaagca gctagccagc atcaaaataa tctaccccaa 600
 tgacttggca aagaagatga ccaaatgcag caagagtcac ctgccgagtc agggccctgt 660
 catcattgac tgcaggccct tcatggagta caacaagagt cacatccaag gagctgtcca 720
 cattaactgt gccgataaga tcagccggcg gagactgcag cagggcaaga tcaactgtct 780
 agacttgatt tcctgtaggg aaggcaagga ctctttcaag aggatctttt ccaaagaaat 840
 tatagtttat accatgagaa ccaatgaacc aagccgagtg atgccctccc agccacttca 900
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 tggtttctcc cccttttttc tttaaagcta ntttgtaaaa gtttatgag 1909

<210> 130
 <211> 482
 <212> PRT
 <213> Homo sapiens

<400> 130
 Met Pro Pro Ser Pro Leu Asp Asp Arg Val Val Val Ala Leu Ser Arg
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 Pro Val Arg Pro Gln Asp Leu Asn Leu Cys Leu Asp Ser Ser Tyr Leu
 20 25 30
 Gly Ser Ala Asn Pro Gly Ser Asn Ser His Pro Pro Val Ile Ala Thr
 35 40 45
 Thr Val Val Ser Leu Lys Ala Ala Asn Leu Thr Tyr Met Pro Ser Ser
 50 55 60
 Ser Gly Ser Ala Arg Ser Leu Asn Cys Gly Cys Ser Ser Ala Ser Cys
 65 70 75 80

Cys	Thr	Val	Ala	Thr	Tyr	Asp	Lys	Asp	Asn	Gln	Ala	Gln	Thr	Gln	Ala	
				85					90					95		
Ile	Ala	Ala	Gly	Thr	Thr	Thr	Thr	Ala	Ile	Gly	Thr	Ser	Thr	Thr	Cys	
			100					105					110			
Pro	Ala	Asn	Gln	Met	Val	Asn	Asn	Asn	Glu	Asn	Thr	Gly	Ser	Leu	Ser	
		115					120					125				
Pro	Ser	Ser	Gly	Val	Gly	Ser	Pro	Val	Ser	Gly	Thr	Pro	Lys	Gln	Leu	
	130					135					140					
Ala	Ser	Ile	Lys	Ile	Ile	Tyr	Pro	Asn	Asp	Leu	Ala	Lys	Lys	Met	Thr	
145				150						155					160	
Lys	Cys	Ser	Lys	Ser	His	Leu	Pro	Ser	Gln	Gly	Pro	Val	Ile	Ile	Asp	
			165						170					175		
Cys	Arg	Pro	Phe	Met	Glu	Tyr	Asn	Lys	Ser	His	Ile	Gln	Gly	Ala	Val	
			180					185					190			
His	Ile	Asn	Cys	Ala	Asp	Lys	Ile	Ser	Arg	Arg	Arg	Leu	Gln	Gln	Gly	
	195						200					205				
Lys	Ile	Thr	Val	Leu	Asp	Leu	Ile	Ser	Cys	Arg	Glu	Gly	Lys	Asp	Ser	
	210					215					220					
Phe	Lys	Arg	Ile	Phe	Ser	Lys	Glu	Ile	Ile	Val	Tyr	Asp	Glu	Asn	Thr	
225					230					235					240	
Asn	Glu	Pro	Ser	Arg	Val	Met	Pro	Ser	Gln	Pro	Leu	His	Ile	Val	Leu	
				245					250					255		
Glu	Ser	Leu	Lys	Arg	Glu	Gly	Lys	Glu	Pro	Leu	Val	Leu	Lys	Gly	Gly	
		260						265					270			
Leu	Ser	Ser	Phe	Lys	Gln	Asn	His	Glu	Asn	Leu	Cys	Asp	Asn	Ser	Leu	
		275					280					285				
Gln	Leu	Gln	Glu	Cys	Arg	Glu	Val	Gly	Gly	Gly	Ala	Ser	Ala	Ala	Ser	
	290					295					300					
Ser	Leu	Leu	Pro	Gln	Pro	Ile	Pro	Thr	Thr	Pro	Asp	Ile	Glu	Asn	Ala	
305					310					315					320	
Glu	Leu	Thr	Pro	Ile	Leu	Pro	Phe	Leu	Phe	Leu	Gly	Asn	Glu	Gln	Asp	
			325						330					335		
Ala	Gln	Asp	Leu	Asp	Thr	Met	Gln	Arg	Leu	Asn	Ile	Gly	Tyr	Val	Ile	
			340					345					350			
Asn	Val	Thr	Thr	His	Leu	Pro	Leu	Tyr	His	Tyr	Glu	Lys	Gly	Leu	Phe	
		355					360					365				
Asn	Tyr	Lys	Arg	Leu	Pro	Ala	Thr	Asp	Ser	Asn	Lys	Gln	Asn	Leu	Arg	
	370					375					380					
Gln	Tyr	Phe	Glu	Glu	Ala	Phe	Glu	Phe	Ile	Glu	Glu	Ala	His	Gln	Cys	
385					390					395					400	

Gly Lys Gly Leu Leu Ile His Cys Gln Ala Gly Val Ser Arg Ser Ala
405 410 415

Thr Ile Val Ile Ala Tyr Leu Met Lys His Thr Arg Met Thr Met Thr
420 425 430

Asp Ala Tyr Lys Phe Val Lys Gly Lys Arg Pro Ile Ile Ser Pro Asn
435 440 445

Leu Asn Phe Met Gly Gln Leu Leu Glu Phe Glu Glu Asp Leu Asn Asn
450 455 460

Gly Val Thr Pro Arg Ile Leu Thr Pro Lys Leu Met Gly Val Glu Thr
465 470 475 480

Val Val

<210> 131
<211> 1493
<212> DNA
<213> Homo sapiens

<400> 131
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ttggctgtga tattgtgtgc tacagttgtt caaggcttcc ccatgttcaa aagaggacgc 180
tgtctttgca taggccctgg ggtaaaagca gtgaaagtgg cagatattga gaaagcctcc 240
ataatgtacc caagtaacaa ctgtgacaaa atagaagtga ttattaccct gaaagaaaat 300
aaaggacaac gatgcctaaa tcccaaactg aagcaagcaa ggcttataat caaaaaagtt 360
gaaagaaaga attttttaaaa atatcaaaac atatgaagtc ctggaaaagg gcatctgaaa 420
aacctagaac aagtttaact gtgactactg aaatgacaag aattctacag taggaaactg 480
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gggtgaaagg accaaaaaca gaaatacagt cttcctgaat gaatgacaat cagaattcca 600
ctgccccaaag gagtccagca attaaatgga tttctaggaa aagctacctt aagaaaggct 660
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gagaacattt ctgtctctag aagttatctg tctgtattga tctttatgct atattactat 840
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ccaaatatca tgtagcacat caatatgtag ggaaacattc ttatgcatca tttgggtttgt 1020
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gatgtttttc aactttttatt cattgagatg ttttgaagca attaggatat gtgtgtttac 1200
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aatcactttt actttttgta attctgtctc ttagaaaaat acataatcta atcaatttct 1380
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gtcatttttt tctctaataa actaccacaa cttttctttt ttaaaaaaaaa aaa 1493

<210> 132
<211> 94
<212> PRT
<213> Homo sapiens

<400> 132
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Thr Val Val Gln Gly Phe Pro Met Phe Lys Arg Gly Arg Cys Leu Cys
 20 25 30
 Ile Gly Pro Gly Val Lys Ala Val Lys Val Ala Asp Ile Glu Lys Ala
 35 40 45
 Ser Ile Met Tyr Pro Ser Asn Asn Cys Asp Lys Ile Glu Val Ile Ile
 50 55 60
 Thr Leu Lys Glu Asn Lys Gly Gln Arg Cys Leu Asn Pro Lys Ser Lys
 65 70 75 80
 Gln Ala Arg Leu Ile Ile Lys Lys Val Glu Arg Lys Asn Phe
 85 90

<210> 133
 <211> 1521
 <212> DNA
 <213> Homo sapiens

<400> 133
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 cgtgcgtccc tagagtcgag cggggcaagg gagccagtgg ccgccgacgg gggaccggga 180
 aacttttctg ggctcctgga gagccctgta gccgcgctcc atgctccggc agcggccccga 240
 aacccagccc cgccgctgac ggagcccgcc gctccgggca gggcccatgc cctgcgcgct 300
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<210> 134
 <211> 260
 <212> PRT
 <213> Homo sapiens

<400> 134
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 20 25 30

Asp Ala Ala His Cys Val Ala Thr Gly Tyr Met Cys Lys Ser Glu Leu
 35 40 45
 Ser Ala Cys Phe Ser Arg Leu Leu Asp Pro Gln Asn Ser Asn Ser Pro
 50 55 60
 Leu Thr His Gly Cys Leu Asp Ser Leu Ala Ser Thr Thr Asp Ile Cys
 65 70 75 80
 Gln Ala Lys Gln Ala Arg Asn His Ser Gly Thr Thr Ile Pro Thr Leu
 85 90 95
 Glu Cys Cys His Glu Asp Met Cys Asn Tyr Arg Gly Leu His Asp Val
 100 105 110
 Leu Ser Pro Pro Arg Gly Glu Ala Ser Gly Gln Gly Asn Arg Tyr Gln
 115 120 125
 His Asp Gly Ser Arg Asn Leu Ile Thr Lys Val Gln Glu Leu Thr Ser
 130 135 140
 Ser Lys Glu Leu Trp Phe Arg Ala Ala Val Ile Ala Val Pro Ile Ala
 145 150 155 160
 Gly Gly Leu Ile Leu Val Leu Leu Ile Met Leu Ala Leu Arg Met Leu
 165 170 175
 Arg Ser Glu Asn Lys Arg Leu Gln Asp Gln Arg Gln Gln Met Leu Ser
 180 185 190
 Arg Leu His Tyr Ser Phe His Gly His His Ser Lys Lys Gly Gln Val
 195 200 205
 Ala Lys Leu Asp Leu Glu Cys Met Val Pro Val Ser Gly His Glu Asn
 210 215 220
 Cys Cys Leu Thr Cys Asp Lys Met Arg Gln Ala Asp Leu Ser Asn Asp
 225 230 235 240
 Lys Ile Leu Ser Leu Val His Trp Gly Met Tyr Ser Gly His Gly Lys
 245 250 255
 Leu Glu Phe Val
 260

<210> 135
 <211> 2539
 <212> DNA
 <213> Homo sapiens

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 accgtcttca ggccaggcct tggatggtat actgtaaatt cagcatatgg agataccatt 180
 atcatacctt gccgacttga cgtacctcag aatctcatgt ttggcaaagt gaaatatgaa 240
 aagcccgatg gctccccagt atttattgcc ttcagatcct ctacaaagaa aagtgtgcag 300
 tacgacgatg taccagaata caaagacaga ttgaacctct cagaaaacta cactttgtct 360
 atcagtaatg caaggatcag tgatgaaaag agatttgtgt gcatgctagt aactgaggac 420
 aacgtgtttg aggcacctac aatagtcaag gtgttcaagc aaccatctaa acctgaaatt 480
 gtaagcaaag cactgtttct cgaaacagag cagctaaaaa agttgggtga ctgcatttca 540

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gaagacagtt atccagatgg caatatcaca tggtagacagga atggaaaagt gctacatccc 600
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accatgactt ccaccctgga gtacaagaca accaaggctg acatacaaat gccattcacc 720
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gacaccatag gagccgactc tttgatatgc caccagcgaa ctctcagaaa taaatcacag 2460
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<210> 136

<211> 583

<212> PRT

<213> Homo sapiens

<400> 136

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Ile Ser Ala Thr Val Phe Arg Pro Gly Leu Gly Trp Tyr Thr Val Asn
                20                25                30

```

```

Ser Ala Tyr Gly Asp Thr Ile Ile Ile Pro Cys Arg Leu Asp Val Pro
    35                40                45

```

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Gln Asn Leu Met Phe Gly Lys Trp Lys Tyr Glu Lys Pro Asp Gly Ser
    50                55                60

```

```

Pro Val Phe Ile Ala Phe Arg Ser Ser Thr Lys Lys Ser Val Gln Tyr
    65                70                75                80

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```

Asp Asp Val Pro Glu Tyr Lys Asp Arg Leu Asn Leu Ser Glu Asn Tyr
    85                90                95

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Thr	Leu	Ser	Ile	Ser	Asn	Ala	Arg	Ile	Ser	Asp	Glu	Lys	Arg	Phe	Val	100	105	110	
Cys	Met	Leu	Val	Thr	Glu	Asp	Asn	Val	Phe	Glu	Ala	Pro	Thr	Ile	Val	115	120	125	
Lys	Val	Phe	Lys	Gln	Pro	Ser	Lys	Pro	Glu	Ile	Val	Ser	Lys	Ala	Leu	130	135	140	
Phe	Leu	Glu	Thr	Glu	Gln	Leu	Lys	Lys	Leu	Gly	Asp	Cys	Ile	Ser	Glu	145	150	155	160
Asp	Ser	Tyr	Pro	Asp	Gly	Asn	Ile	Thr	Trp	Tyr	Arg	Asn	Gly	Lys	Val	165	170	175	
Leu	His	Pro	Leu	Glu	Gly	Ala	Val	Val	Ile	Ile	Phe	Lys	Lys	Glu	Met	180	185	190	
Asp	Pro	Val	Thr	Gln	Leu	Tyr	Thr	Met	Thr	Ser	Thr	Leu	Glu	Tyr	Lys	195	200	205	
Thr	Thr	Lys	Ala	Asp	Ile	Gln	Met	Pro	Phe	Thr	Cys	Ser	Val	Thr	Tyr	210	215	220	
Tyr	Gly	Pro	Ser	Gly	Gln	Lys	Thr	Ile	His	Ser	Glu	Gln	Ala	Val	Phe	225	230	235	240
Asp	Ile	Tyr	Tyr	Pro	Thr	Glu	Gln	Val	Thr	Ile	Gln	Val	Leu	Pro	Pro	245	250	255	
Lys	Asn	Ala	Ile	Lys	Glu	Gly	Asp	Asn	Ile	Thr	Leu	Lys	Cys	Leu	Gly	260	265	270	
Asn	Gly	Asn	Pro	Pro	Pro	Glu	Glu	Phe	Leu	Phe	Tyr	Leu	Pro	Gly	Gln	275	280	285	
Pro	Glu	Gly	Ile	Arg	Ser	Ser	Asn	Thr	Tyr	Thr	Leu	Met	Asp	Val	Arg	290	295	300	
Arg	Asn	Ala	Thr	Gly	Asp	Tyr	Lys	Cys	Ser	Leu	Ile	Asp	Lys	Lys	Ser	305	310	315	320
Met	Ile	Ala	Ser	Thr	Ala	Ile	Thr	Val	His	Tyr	Leu	Asp	Leu	Ser	Leu	325	330	335	
Asn	Pro	Ser	Gly	Glu	Val	Thr	Arg	Gln	Ile	Gly	Asp	Ala	Leu	Pro	Val	340	345	350	
Ser	Cys	Thr	Ile	Ser	Ala	Ser	Arg	Asn	Ala	Thr	Val	Val	Trp	Met	Lys	355	360	365	
Asp	Asn	Ile	Arg	Leu	Arg	Ser	Ser	Pro	Ser	Phe	Ser	Ser	Leu	His	Tyr	370	375	380	
Gln	Asp	Ala	Gly	Asn	Tyr	Val	Cys	Glu	Thr	Ala	Leu	Gln	Glu	Val	Glu	385	390	395	400
Gly	Leu	Lys	Lys	Arg	Glu	Ser	Leu	Thr	Leu	Ile	Val	Glu	Gly	Lys	Pro	405	410	415	

Gln Ile Lys Met Thr Lys Lys Thr Asp Pro Ser Gly Leu Ser Lys Thr
 420 425 430
 Ile Ile Cys His Val Glu Gly Phe Pro Lys Pro Ala Ile Gln Trp Thr
 435 440 445
 Ile Thr Gly Ser Gly Ser Val Ile Asn Gln Thr Glu Glu Ser Pro Tyr
 450 455 460
 Ile Asn Gly Arg Tyr Tyr Ser Lys Ile Ile Ile Ser Pro Glu Glu Asn
 465 470 475 480
 Val Thr Leu Thr Cys Thr Ala Glu Asn Gln Leu Glu Arg Thr Val Asn
 485 490 495
 Ser Leu Asn Val Ser Ala Ile Ser Ile Pro Glu His Asp Glu Ala Asp
 500 505 510
 Glu Ile Ser Asp Glu Asn Arg Glu Lys Val Asn Asp Gln Ala Lys Leu
 515 520 525
 Ile Val Gly Ile Val Val Gly Leu Leu Leu Ala Ala Leu Val Ala Gly
 530 535 540
 Val Val Tyr Trp Leu Tyr Met Lys Lys Ser Lys Thr Ala Ser Lys His
 545 550 555 560
 Val Asn Lys Asp Leu Gly Asn Met Glu Glu Asn Lys Lys Leu Glu Glu
 565 570 575
 Asn Asn His Lys Thr Glu Ala
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<210> 137
 <211> 1119
 <212> DNA
 <213> Homo sapiens

<400> 137
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 gaggagtttt atggattact acaacatggt cataagatcc ccaatggtga cgttttggtta 180
 ggctatgcag acatccatgg agacttacta cctataaata atgatgataa ttatcacaaa 240
 gctgtttcaa cggccaatcc actgcttagg atatttatac aaaagaagga agaagcagac 300
 tacagtgcct ttggtacaga cacgctaata aagaagaaga atgttttaac caacgtattg 360
 cgtcctgaca accatagaaa aaagccacat atagtcatta gtatgccccca agactttaga 420
 cctgtgtctt ctattataga cgtggatatt ctcccagaaa cgcacgtag ggtacgtctt 480
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 ggtctggctc aaagtacagg actattagct gttaatgatg aagttttaga agttaatggc 660
 atagaagttt caggggaagag ccttgatcaa gtaacagaca tgatgattgc aaatagccgt 720
 aacctcatca taacagttag accggcaaac cagaggaata atgttgtagg gaacagtcgg 780
 acttctggca gttccgggtc gtctactgat aacagccttc ttggctaccc acagcagatt 840
 gaaccaagct ttgagccaga ggatgaagac agcgaagaag atgacattat cattgaagac 900
 aatggagtgc cacagcagat tccaaaagct gttcctaata ctgagagcct ggagtcatta 960
 acacagatag agctaagctt tgagtctgga cagaatggct ttattccctc taatgaagtg 1020
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 aaactcttag aagaagatgg aacaatcata acattatga 1119

<210> 138
 <211> 372
 <212> PRT
 <213> Homo sapiens

<400> 138

Met	Asn	Arg	Ser	His	Arg	His	Gly	Ala	Gly	Ser	Gly	Cys	Leu	Gly	Thr	1	5	10	15
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Glu	Arg	Ser	Lys	Pro	Gly	Lys	Phe	Glu	Glu	Phe	Tyr	Gly	Leu	Leu	Gln	35	40	45	
His	Val	His	Lys	Ile	Pro	Asn	Val	Asp	Val	Leu	Val	Gly	Tyr	Ala	Asp	50	55	60	
Ile	His	Gly	Asp	Leu	Leu	Pro	Ile	Asn	Asn	Asp	Asp	Asn	Tyr	His	Lys	65	70	75	80
Ala	Val	Ser	Thr	Ala	Asn	Pro	Leu	Leu	Arg	Ile	Phe	Ile	Gln	Lys	Lys	85	90	95	
Glu	Glu	Ala	Asp	Tyr	Ser	Ala	Phe	Gly	Thr	Asp	Thr	Leu	Ile	Lys	Lys	100	105	110	
Lys	Asn	Val	Leu	Thr	Asn	Val	Leu	Arg	Pro	Asp	Asn	His	Arg	Lys	Lys	115	120	125	
Pro	His	Ile	Val	Ile	Ser	Met	Pro	Gln	Asp	Phe	Arg	Pro	Val	Ser	Ser	130	135	140	
Ile	Ile	Asp	Val	Asp	Ile	Leu	Pro	Glu	Thr	His	Arg	Arg	Val	Arg	Leu	145	150	155	160
Tyr	Lys	Tyr	Gly	Thr	Glu	Lys	Pro	Leu	Gly	Phe	Tyr	Ile	Arg	Asp	Gly	165	170	175	
Ser	Ser	Val	Arg	Val	Thr	Pro	His	Gly	Leu	Glu	Lys	Val	Pro	Gly	Ile	180	185	190	
Phe	Ile	Ser	Arg	Leu	Val	Pro	Gly	Gly	Leu	Ala	Gln	Ser	Thr	Gly	Leu	195	200	205	
Leu	Ala	Val	Asn	Asp	Glu	Val	Leu	Glu	Val	Asn	Gly	Ile	Glu	Val	Ser	210	215	220	
Gly	Lys	Ser	Leu	Asp	Gln	Val	Thr	Asp	Met	Met	Ile	Ala	Asn	Ser	Arg	225	230	235	240
Asn	Leu	Ile	Ile	Thr	Val	Arg	Pro	Ala	Asn	Gln	Arg	Asn	Asn	Val	Val	245	250	255	
Arg	Asn	Ser	Arg	Thr	Ser	Gly	Ser	Ser	Gly	Gln	Ser	Thr	Asp	Asn	Ser	260	265	270	
Leu	Leu	Gly	Tyr	Pro	Gln	Gln	Ile	Glu	Pro	Ser	Phe	Glu	Pro	Glu	Asp	275	280	285	

Glu Asp Ser Glu Glu Asp Asp Ile Ile Ile Glu Asp Asn Gly Val Pro
 290 295 300
 Gln Gln Ile Pro Lys Ala Val Pro Asn Thr Glu Ser Leu Glu Ser Leu
 305 310 315 320
 Thr Gln Ile Glu Leu Ser Phe Glu Ser Gly Gln Asn Gly Phe Ile Pro
 325 330 335
 Ser Asn Glu Val Ser Leu Ala Ala Ile Ala Ser Ser Ser Asn Thr Glu
 340 345 350
 Phe Glu Thr His Ala Pro Asp Gln Lys Leu Leu Glu Glu Asp Gly Thr
 355 360 365
 Ile Ile Thr Leu
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<210> 139
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:HIS6 epitope
 tag

<400> 139
 His His His His His His
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<210> 140
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:T7-T24 oligo

<220>
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 <222> (8)..(24)
 <223> t at positions 8-24 may be present or absent

<400> 140
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24

<210> 141
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:endoplasmic
 reticulum retention sequence

<400> 141
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